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**INTERIM CONTAMINATION ASSESSMENT REPORT AND
PHASE II ROUND 2 SAMPLING PLAN**

**CIBA-GEIGY Facility
Cranston, Rhode Island**

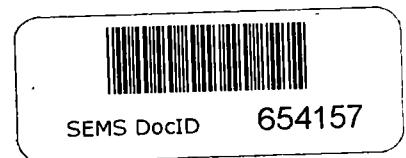
Prepared for:

**CIBA-GEIGY CORPORATION
444 Sawmill River Road
Ardsley, New York 10502**

Prepared by:

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201 Willowbrook Blvd.
Wayne, New Jersey 07470**

**March 1994
87X4660-2.61**



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INTRODUCTION

The results of the Phase I and Phase II (Round 1) sampling activities were assessed to select locations and parameters for the Phase II Round 2 sampling event. Analytical data were evaluated to determine whether the extent of detected site-related contaminants have been adequately delineated. Contamination was defined as those concentrations which exceed local background, preliminary Media Protection Standards (MPSs), or, where preliminary MPS were not available, New Jersey Soil Cleanup Criteria. Sampling locations and parameters for the upcoming sampling round (Phase II Round 2) were selected to fill remaining data gaps in delineating the horizontal and vertical extent of contamination in both the surface (0-2 ft) and subsurface (greater than 2 ft) soils.

Analytical methods used in this evaluation were focused on determining if additional spatial delineation would be necessary to define volumes and patterns, not to indicate that these selected analytes warrant remediation. In addition, the MPSs used in this evaluation have not been approved by the USEPA, and were not developed to address contaminated soils impact on groundwater (i.e., solubility, mobility, degradation products). Both of these factors may cause these standards to change.

METHODOLOGY

In order to determine what concentrations of analytes might be of concern, data were compared to background levels. Background data includes data collected during Phase I and Phase II Round 1 which were designated as "background" and "off-site" samples. These data sets were combined because, in general, analytes detected off site were similar in both type and concentration to those detected in the background samples. Two statistical parameters were used to characterize background data: the background concentration and the calculated maximum background concentration. The background concentration was estimated using the 95% upper confidence limit (UCL) of the mean. The calculated maximum background concentration was based on a 95% upper tolerance limit (UTL) of the 95th percentile background concentration.

If on-site data exceeded both the UCL and the UTL, the concentrations were then compared to MPSs. If no MPS was available for comparison, the concentration was compared to New Jersey soil cleanup criteria. If the concentration of an analyte exceeded the MPS or the NJ criteria, the analyte was considered to be of concern and was evaluated further in terms of magnitude and frequency of exceedance. Note that although MPSs and NJ criteria were developed for surface soils based on residential exposure; these criteria were also used as a point of comparison for subsurface soils.

All Phase I and Phase II Round 1 data were considered in this evaluation with the following exceptions. Phase I dioxin and furan concentrations were not used because the data was rejected because of QA problems at the laboratory as determined by data validation. This data rejection was discussed previously with the EPA. Engineering grade PCB data were only used in evaluating additional sampling locations. Treatability parameters (calcium, iron, manganese, magnesium, potassium, and sodium) were not considered in this evaluation.

EVALUATION OF ON-SITE SOIL CONCENTRATIONS

3.1 PRODUCTION AREA

Various areas within the Production Area are discussed below.

SWMU-2. None of the analytes detected in SWMU-2 soil samples at concentrations above background exceeded available criteria (Table 3-1). One of the analytes has no criterion for comparison: trichlorodibenzofuran (detected at 0.73 ppm).

SWMU-3. None of the analytes detected in SWMU-3 soil samples at concentrations above background exceeded MPSs or NJ criteria (Table 3-2). One of the analytes has no criterion for comparison: trichlorodibenzofuran (maximum 1.2 ppm). N-octane was detected in one sample at a concentrations of 12 ppm. Background samples were not analyzed for this analyte, and there are no criteria for comparison.

SWMU-7. The PCB arochlor-1260 is the only analyte detected in SWMU-7 soil samples at concentrations above the MPS (4.5 ppm) (Table 3-3). Arochlor-1260 was detected at a maximum surface soil concentration of 6.1 ppm, and a maximum subsurface soil concentration of 13 ppm. Several of the analytes detected at concentrations above background have no criteria for comparison: 2-nitroaniline (detected at 4.2 ppm); trichlorodibenzofuran (maximum concentration 2.4 ppm); and chlorobenzilate (detected at 0.098 ppm).

SWMU-8. None of the analytes detected in SWMU-8 soil samples at concentrations above background exceeded existing MPSs or NJ criteria (Table 3-4).

SWMU-11. One analyte, isodrin, detected in one subsurface soil sample from SWMU-11 exceeded the MPS (0.22 ppm versus 0.054 ppm) (Table 3-5). Other analytes which

exceeded background but have no criteria for comparison include di- and trichlorodibenzofurans and dioxins.

AOC-13. Three analytes were detected in concentrations above background and MPSs in AOC-13 soil samples (Table 3-6). Gamma-chlordane was detected in one sample (out of twenty-four) at a concentration (1.7 ppm) above the MPS (0.707 ppm). PCB arochlor-1254 was detected in several samples (maximum 77 ppm) at concentrations above the total PCB MPS (31 ppm). PCB arochlor-1248 was detected at one location at a concentration of 150 ppm. The distribution of PCB concentrations in the Production Area is shown in Figures 3-1 through 3-6. (Note: Although the results of the engineering grade PCB analyses are included in these figures, these data were not used in this assessment. Therefore, PCB engineering grade results were not included in the data summary tables.)

Arsenic was detected in one sample (128 ppm) at a concentration above the MPS (19 ppm). Other analytes which exceeded background, but have no criteria for comparison include trichlorodibenzofuran (maximum 3.9 ppm).

AAOI-15. None of the analytes detected in AAOI-15 soil samples at concentrations above background exceeded MPSs or NJ criteria (Table 3-7). One of the analytes - endosulfan sulfate - has no criteria for comparison. Endosulfan sulfate was detected in one surface sample at a concentration of 0.036 ppm.

3.2 WARWICK AREA

SWMUs within the Warwick Area are discussed here.

SWMU-5. Analytes detected in SWMU-5 soil at concentrations above background, MPSs and/or other criteria include: 3,3'-dimethylbenzidine, total PCBs, bis(2-ethylhexyl)phthalate, five organochlorine pesticides and copper (Table 3-8). (Lead was

detected in concentrations slightly above background and above the cleanup criteria (100 ppm), but background also exceeds this criteria.). 3,3'-dimethylbenzidine was detected in only one of the twenty-five samples from SWMU-5. Note also that the MPS for this analyte is lower than the UCL and UTL for background samples. Total PCB concentrations exceeded the MPS (31 ppm) for these analytes in samples from three locations in SWMU-5 (Figures 3-7 and 3-8). PCBs in these samples were detected at concentrations of 36, 49, and 160 ppm. Bis(2-ethylhexyl)phthalate was detected in three samples in concentrations above the MPS. Copper exceeded the criteria in only one of twenty-five samples. Concentrations of organochlorine pesticides exceeding criteria were found mainly along the north edge of the "paper" road which cuts through SWMU-5 (Figures 3-9 - 3-18). Analytes which were detected above background and have no criteria for comparison include: ensodulfan II (detected at 0.18 ppm), and endrin aldehyde (maximum 3.5 ppm).

SWMU-6. None of the analytes detected in SWMU-6 soil samples in concentrations above background exceeded existing MPS or NJ criteria (Table 3-9). One of the analytes which exceeded background - safrole - has no criterion for comparison. Safrole was detected at a maximum concentration of 2.3 ppm.

SWMU-9. None of the analytes detected in SWMU-9 soil samples in concentrations above background exceeded existing MPS or NJ criteria (Table 3-10). Two of the analytes which exceeded background have no criteria for comparison: safrole (maximum 28 ppm); and endrin aldehyde (maximum 0.012 ppm).

SWMU-16. None of the analytes detected in SWMU-16 soil samples at concentrations above background exceeded MPSs or NJ criteria (Table 3-11).

3.3 WASTEWATER TREATMENT AREA

SWMUs within the Wastewater Treatment Area are discussed here.

SWMU-10. None of the analytes detected in SWMU-10 soil samples at concentrations above background exceeded MPSs or NJ criteria (Table 3-12). One of the analytes - thionazin - has no criterion for comparison. Thionazin was detected in one subsurface sample at a concentration of 0.0063 ppm.

SWMU-12. Three of the analytes detected in soil samples from SWMU-12 were detected in concentrations above MPSs or NJ criteria (Table 3-13). Total tetrachlorodibenzofurans were detected in one sample at a concentration of 0.0089 ppm.

The MPS for 2,3,7,8tetrachlorodibenzofuran (the most toxic form of this compound) is 0.0023 ppm. Therefore, this comparison may be overly conservative because the total concentration may be attributable to other tetrachlorodibenzofurans. Dieldrin was detected at a maximum concentration of 0.17 ppm (MPS 0.0574 ppm). Dieldrin was detected in only 4 of the 20 samples analyzed. Of these four, only two had concentrations (0.17 and 0.082 ppm) above the MPS. Gamma chlordane was detected at a maximum concentration of 19 ppm (MPS 0.707 ppm). ^{INSECTICIDE} Gamma chlordane was detected in 12 of the 20 samples analyzed. Eleven of the 12 samples had concentrations above the MPS. Several other analytes which were detected in concentrations above background have no criteria for comparison: trichlorodibenzofuran (maximum 120 ppm); dichlorodibenzofuran (maximum 7.2 ppm); endrin aldehyde (maximum 1 ppm); aniline (maximum 1.6 ppm); endosulfan I detected at 0.013 ppm); and sulfotep (maximum 0.14 ppm).

3.4 BACKGROUND AND OFF-SITE AREAS

Background data were compared to off-site data. This comparison showed no significant differences between background and off-site locations. Analyte concentrations in both data sets did not exceed MPSs or New Jersey criteria except for

lead. However, lead concentrations in background and off-site samples were similar to on-site levels. Based on this evaluation, there is no evidence that backgorund and off-site locations have been impacted by past operations at the former Ciba-Geigy facility.

In order to evaluate the need for additional data, Phase II Round 1 results from background and off-site locations not sampled previously were compared to other background and off-site data. This comparison revealed no significant differences between the new and the old data.

CONCLUSIONS AND RECOMMENDATIONS

4.1 PRODUCTION AREA

Based on the results of Phase I and Phase II Round 1 sampling, PCBs are the only analytes of concern in Production Area soils. As evidenced by the number of sampling locations shown in Figures 3-1 and 3-3, PCB distribution in surface soils in the Production Area has been adequately defined. Subsurface PCB data is largely limited to the north end of the Production Area (Figures 3-2 and 3-4). Therefore, additional subsurface sampling is proposed. The proposed sampling locations are situated approximately on the representative block centers of a 100 foot grid across the entire Production Area (Figure 4-1). Some grid centers were not included because either sufficient data is available in this area, or surface data indicates that further subsurface delineation is not warranted. A total of nine locations will be sampled. One sample will be collected from each location at depths of 2 to 4 ft below ground surface. Samples will be analyzed for PCBs. Analytical methods and sampling protocols will be in accordance with the project Quality Assurance/Quality Control Plan.

4.2 WARWICK AREA

Based on frequency of exceedance of criteria, organochlorine pesticides and PCBs in SWMU-5 soils are the only analytes of concern in the Warwick Area soils. PCBs need to be delineated in surface soils. Pesticides need to be delineated in surface and subsurface soils. Based on the current known distribution of contaminants (Figure 3-7 through 3-18), additional delineation is needed to the northeast and southwest of the SWMU. Two locations will be sampled (Figure 4-2). Samples will be collected at depths of 0-2 and 4-6 ft below ground surface at each location. The 0-2 ft samples will be analyzed for PCBs and pesticides. The 4-6 ft samples will be analyzed for pesticides

only. Analytical methods and sampling protocols will be in accordance with the project Quality Assurance/Quality Control Plan.

4.3 WASTEWATER TREATMENT AREA

Based on frequency of detection and number of exceedances, gamma-chlordane appears to be an analyte of concern in SWMU-12 soils in the Wastewater Treatment Area. Gamma-chlordane was never manufactured at this facility by Ciba-Geigy. This property was owned and operated by a nursery prior to its purchase by Ciba-Geigy in 1966. Gamma-chlordane is a pesticide frequently used in nursery operations. Therefore, it is likely that the gamma-chlordane found in this area resulted from site activities by previous owners and cannot be delineated as if it had resulted from a single release. No further sampling is proposed for this area.

4.4 BACKGROUND AND OFF-SITE AREAS

A total of over 45 background and offsite samples have been analyzed for Appendix IX parameters. Results from these analyses show no significant variation in concentrations and types of analytes detected. Analytes detected do not exceed MPSs or NJ criteria (except for lead which does not appear to be site-related). In addition, there appears to be no impact from past Ciba-Geigy operations on background and off-site soils. Therefore, no additional off-site or background sampling is proposed. ~~OU~~

Tables

TABLE 3-1
CIBA-GEIGY
ANALYTICAL RESULTS
PRODUCTION AREA - SWMU-2 SOIL SAMPLES
PHASE I AND PHASE II DATA

SITE LOCATOR SAMPLE NUMBER COLLECT DATE	MPS	Mean Surface	Maximum Surface	95th UCL of Mean Background	95th UTL of 95th Percentile Background	Mean Subsurface	Maximum Subsurface	95th UCL of Mean Background	95th UTL of 95th Percentile Background
VOLATILE ORGANICS									
8240S 2-BUTANONE	197000			0.100	0.237	0.097	0.13	0.100	0.237
8240S ACRYLIC ACID				0.112	0.126			0.112	0.126
8240S ISOBUTANOL				1.107	1.276			1.107	1.276
8240S M&P-XYLENE	1570000			0.037	0.088	0.042	0.029	0.037	0.088
8240S O-XYLENE	1570000			0.037	0.088	0.039	0.0087	0.037	0.088
8240S TOLUENE	787000			0.135	0.487	0.142	0.079	0.135	0.487
SEMI-VOLATILE ORGANICS									
8270S 3&4-METHYLPHENOL				0.186	0.242	0.137	0.026	0.186	0.242
8270S 4-METHYLPHENOL	19700			0.497	1.222	1.130	3.4	0.497	1.222
8270S 4-NITROQUINOLINE-N-OXIDE				3.498	5.081			3.498	5.081
8270S ANTHRACENE	1180000	0.102	0.034	1.608	6.924			1.608	6.924
8270S ARAMITE				2.579	7.819			2.579	7.819
8270S BENZO(A)ANTHRACENE	32	0.173	0.23	2.508	10.221	0.363	0.15	2.508	10.221
8270S BENZO(A)PYRENE	4.8	0.142	0.26	2.100	8.180	0.346	0.19	2.100	8.180
8270S BENZO(B)FLUORANTHENE	39	0.199	0.37	3.248	13.005	0.362	0.31	3.248	13.005
8270S BENZO(G,H)PERYLENE	15700	0.150	0.13	1.250	4.558	0.379	0.14	1.250	4.558
8270S BENZO(K)FLUORANTHENE	92	0.138	0.16	3.424	14.783	0.358	0.11	3.424	14.783
8270S BIS(2-ETHYLHEXYL)PHTHALATE	65.6	0.101	0.13	0.995	3.891	0.405	0.43	0.995	3.891
8270S BUTAZOLIDIN	1180			2.132	4.465			2.132	4.465
8270S CHRYSENE	1100	0.220	0.27	2.691	10.787	0.389	0.23	2.691	10.787
8270S FLUORANTHENE	157000	0.320	0.47	4.734	19.879	0.346	0.38	4.734	19.879
8270S INDENO(1,2,3-CD)PYRENE	17	0.120	0.14	1.394	5.265	0.358	0.15	1.394	5.265
8270S IRGASAN DP-300	1690			1.307	3.990			1.307	3.990
8270S NAPHTHALENE	15700			0.678	2.599	0.342	0.18	0.678	2.599
8270S PENTACHLORONITROBENZENE				0.327	0.797			0.327	0.797
8270S PHENANTHRENE	15700	0.18	0.18	5.617	27.078	0.3	0.19	5.617	27.078
8270S PROPAZINE				1.392	3.995			1.392	3.995
8270S PYRENE	118000	0.320	0.47	5.117	20.698	0.343	0.34	5.117	20.698
8270S TINUVIN 327	984			2.525	6.254			2.525	6.254
8270S TOFRANIL				2.127	4.435			2.127	4.435
8270S TRCDF		0.730	0.73	0.488	1.586	0.785	0.36	0.488	1.586
ORGANOCHLORINE PESTICIDES/PCBS									
8080S ALPHA-BHC	0.146			0.002	0.005	0.001	0.0013	0.002	0.005
8080S ENDRIN ALDEHYDE				0.003	0.010	0.003	0.0018	0.003	0.010
8080S GAMMA-BHC	0.707			0.002	0.005	0.002	0.0026	0.002	0.005
8080S GAMMA-CHLORDANE	0.707			0.002	0.006	0.002	0.0021	0.002	0.006
8080S METHOXYCHLOR	1970	0.239	0.47	0.062	0.279			0.062	0.279
8080S PCB-1254	27.6	0.170	0.19	0.037	0.112	0.515	2.4	0.037	0.112
8080S PCB-1260	4.5	0.185	0.24	0.032	0.098			0.032	0.098
ORGANOPHOSPHORUS PESTICIDES									
8142S METHYL PARATHION	787			0.00763	0.01406	0.008	0.0067	0.00763	0.01406
DIOXINS/FURANS									
SOW2S TCDF				0.00002	0.00005			0.00002	0.00005
HERBICIDES									
8152S 2,4,5-T	39400			0.00816	0.01345	0.010	0.0058	0.00816	0.01345
8152S 2,4-D	3940			0.02381	0.05278	0.062	0.037	0.02381	0.05278
INORGANICS									
7041S ANTIMONY				0.381	2.052			0.381	2.052
7060S ARSENIC	19			11.776	28.441	7.833	15	11.776	28.441
6010S BARIUM	27600	31.80	31.8	41	112	28	43	41	112
6010S BERYLLIUM	8.1	0.71	0.71	0.482	0.907	0.370	0.67	0.482	0.907
6010S CADMIUM	394			0.307	0.553	0.269	0.56	0.307	0.553
6010S CALCIUM				1062	1858	1705	4450	1062	1858
6010S CHROMIUM	1970	5.40	5.4	10.64	19.31	10.93	16.60	10.64	19.31
6010S COBALT	23600			3.451	5.779	5.675	8.6	3.451	5.779

All results in mg/kg (ppm).

R, RV - Rejected.

U - Undetected; number represents one half of detection limit.

J - Estimated.

NA - Not analyzed.

Phase II results are not final data.

TABLE 3-1
CIBA-GEIGY
ANALYTICAL RESULTS
PRODUCTION AREA - SWMU-2 SOIL SAMPLES
PHASE I AND PHASE II DATA

SITE LOCATOR SAMPLE NUMBER COLLECT DATE	MPS	Mean Surface	Maximum Surface	95th UCL of Mean Background	95th UTL of 95th Percentile Background	Mean Subsurface	Maximum Subsurface	95th UCL of Mean Background	95th UTL of 95th Percentile Background
6010S COPPER		5.90	5.9	14.641	29.531	14.567	25.6	14.641	29.531
6010S IRON				13375	22307	16666	29900	13375	22307
7421S LEAD		6.80	6.8	108.744	307.514	13.267	16.4	108.744	307.514
6010S MAGNESIUM				1534	2457	2842	4640	1534	2457
6010S MANGANESE				200	381	190	330	200	381
6010S NICKEL	7870			6.584	11.509	12.983	21	6.584	11.509
6010S POTASSIUM				484.3	732.9	473.0	711.0	484.3	732.9
6010S SODIUM				187.7	312.3	152.0	268.0	187.7	312.3
6010S VANADIUM	2760	7.60	7.6	15.1	26.1	11.8	17.9	15.1	26.1
6010S ZINC	118000	37.20	37.2	59.9	140.1	41.3	70.8	59.9	140.1
9010S CYANIDE	7870			1.212	2.688			1.212	2.688
9030S SULFIDE				98.8	342.5	18.2	19.0	98.8	342.5

Dioxin/Furan results in parenthesis are not used in the mean calculation, due to QC problems.

All results in mg/kg (ppm).

R, RV - Rejected.

U - Undetected; number represents one half of detection limit.

J - Estimated.

NA - Not analyzed.

Phase II results are not final data.

TABLE 3-2
CIBA-GEIGY
ANALYTICAL RESULTS
PRODUCTION AREA - SWMU-3 SOIL SAMPLES
PHASE I AND PHASE II DATA

3/2/94

SITE LOCATOR SAMPLE NUMBER COLLECT DATE	New Jersey Soil Cleanup Criteria	MPS	Mean Surface	Maximum Surface	95th UCL of Mean Background	95th UTL of 95th Percentile Background	Mean Subsurface	Maximum Subsurface	95th UCL of Mean Background	95th UTL of 95th Percentile Background	
VEGETABLE ORGANICS											
8240S 2-BUTANONE		197000			0.100	0.237	0.801	0.29	0.100	0.237	
8240S ACRYLIC ACID					0.112	0.126			0.112	0.126	
8240S ETHYLBENZENE		394000			0.037	0.088	1.102	5.9	0.037	0.088	
8240S ISOBUTANOL					1.107	1.276			1.107	1.276	
8240S M&P-XYLENE		1570000			0.037	0.088	5.873	33	0.037	0.088	
8240S METHYLENE CHLORIDE	49	0.004	0.0056	0.349	1.170	0.842	1.5	0.349	1.170		
8240S N-OCTANE					NA	NA	12.000	12	NA	NA	
8240S O-XYLENE		1570000			0.037	0.088	1.533	9.4	0.037	0.088	
8240S STYRENE		787000			0.037	0.088	0.312	0.029	0.037	0.088	
8240S TOLUENE		787000			0.135	0.487	0.315	0.085	0.135	0.487	
8240S TRANS-1,4-DICHLORO-2-BUTENE					0.073	0.176			0.073	0.176	
8240S 1,4-DIOXANE		83.5			6.075	6.843	5.000	4	6.075	6.843	
SEMI-VOLATILE ORGANICS											
8270S 2,4-DIMETHYLPHENOL		78700			0.327	0.797	0.268	0.26	0.327	0.797	
8270S 2-NITROANILINE			0.748	0.89	1.673	4.077			1.673	4.077	
8270S 3&4-METHYLPHENOL		19700	0.301	0.77	0.186	0.242	0.614	1.2	0.186	0.242	
8270S 4-CHLOROANILINE			0.191	0.045	0.422	0.871			0.422	0.871	
8270S 4-NITROQUINOLINE-N-OXIDE					3.498	5.081			3.498	5.081	
8270S ACENAPHTHENE		236000	0.160	0.13	0.580	2.015			0.580	2.015	
8270S ACENAPHTHYLENE		15700	0.142	0.18	0.347	0.926			0.347	0.926	
8270S ACETOPHENONE					0.327	0.797	0.318	0.075	0.327	0.797	
8270S ANTHRACENE		1180000	0.201	0.38	1.608	6.924	0.320	0.093	1.608	6.924	
8270S ARAMITE					2.579	7.819			2.579	7.819	
8270S BENZO(A)ANTHRACENE		32	0.538	1.4	2.508	10.221	0.328	0.5	2.508	10.221	
8270S BENZO(A)PYRENE		4.8	0.610	1.4	2.100	8.180	0.319	0.49	2.100	8.180	
8270S BENZO(B)FLUORANTHENE		39	0.841	2	3.248	13.005	0.305	0.75	3.248	13.005	
8270S BENZO(G,H,I)PERYLENE		15700	0.423	0.83	1.250	4.558	0.335	0.27	1.250	4.558	
8270S BENZOK(FLUORANTHENE		92	0.345	0.64	3.424	14.783	0.298	0.8	3.424	14.783	
8270S BIS(2-ETHYLHEXYL)PHthalate		65.6	0.196	0.4	0.995	3.891	0.495	1.2	0.995	3.891	
8270S BUTYLBENZYLPHthalate		787000	0.175	0.19	0.316	0.798			0.316	0.798	
8270S CHRYSENE		1100	0.558	1.3	2.691	10.787	0.352	0.47	2.691	10.787	
8270S DIBENZA(A,H)ANTHRACENE		4.3	0.133	0.2	0.483	1.544			0.483	1.544	
8270S DIBENZOFURAN			0.141	0.055	0.864	3.407			0.864	3.407	
8270S DINOSEB		394			0.270	0.430			0.270	0.430	
8270S FLUORANTHENE		157000	0.808	2.2	4.734	19.879	0.308	0.88	4.734	19.879	
8270S FLUORENE		157000	0.158	0.12	0.856	3.330			0.856	3.330	
8270S INDENO(1,2,3-CD)PYRENE		17	0.398	0.85	1.394	5.265	0.301	0.28	1.394	5.265	
8270S NAPHTHALENE		15700	0.137	0.037	0.678	2.599	0.218	0.22	0.678	2.599	
8270S PHENANTHRENE		15700	0.5	1.5	5.617	27.078	0.30	0.4	5.617	27.078	
8270S PYRENE		118000	1.508	4.5	5.117	20.698	0.369	1.4	5.117	20.698	
8270S TINUVIN 327			984	2.600	2.6	2.525	6.254	2.298	2.4	2.525	6.254
8270S TRCDF				0.400	0.4	0.488	1.586	0.843	1.2	0.488	1.586
ORGANOCHLORINE PESTICIDES/PCBS											
8080S ALPHA-BHC		0.146			0.002	0.005	0.004	0.018	0.002	0.005	
8080S GAMMA-BHC		0.707			0.002	0.005	0.005	0.02	0.002	0.005	
8080S GAMMA-CHLORDANE		0.707	0.011	0.28	0.002	0.006			0.002	0.006	
8080S HEPTACHLOR		0.204			0.002	0.005	0.003	0.0037	0.002	0.005	
8080S METHOXYCHLOR		1970	0.191	0.29	0.062	0.279	0.026	0.056	0.062	0.279	
8080S PCB-1254		27.6	3.348	5.3	0.037	0.112	1.616	4.3	0.037	0.112	
8080S PCB-1260		4.5	1.576	3.2	0.032	0.098	0.742	3.3	0.032	0.098	
ORGANOPHOSPHORUS PESTICIDES											
8142S DISULFOTON		15.7			0.059	0.111	0.060	0.0095	0.059	0.111	
8142S METHYL PARATHION		787			0.008	0.014	0.009	0.0058	0.008	0.014	
DIOXINS/FURANS											
SOWZS TCDD		0.00023			0.00003	0.00006	0.00002	0.00010	0.00003	0.00006	
SOWZS TCDF		0.00023	0.00019	0.00019	0.00002	0.00005	0.00003	0.00110	0.00002	0.00005	
HERBICIDES											
8152S DINOSEB		394			0.00477	0.00887	0.007	0.0055	0.00477	0.00887	
INORGANICS											

All results in mg/kg (ppm).

R, R.V. - Rejected.

U - Undetected; number represents one half of detection limit.

J - Estimated.

NA - Not analyzed.

Phase II results are not final data.

TABLE 3-2
CIBA-GEIGY
ANALYTICAL RESULTS
PRODUCTION AREA - SWMU-3 SOIL SAMPLES
PHASE I AND PHASE II DATA

SITE LOCATOR SAMPLE NUMBER COLLECT DATE	New Jersey Soil Cleanup Criteria	MPS	Mean Surface	Maximum Surface	95th UCL of Mean Background	95th UTL of 95th Percentile Background	Mean Subsurface	Maximum Subsurface	95th UCL of Mean Background	95th UTL of 95th Percentile Background
7060S ARSENIC		19			11.78	28.44	7.08	10.40	11.78	28.44
6010S BARIUM		27600	29.60	29.6	40.51	111.81	18.64	41.00	40.51	111.81
6010S BERYLLIUM		8.1	0.61	0.61	0.48	0.91	0.39	0.79	0.48	0.91
6010S CADMIUM		394			0.31	0.55	0.28	0.52	0.31	0.55
6010S CALCIUM					1062	1858	5656	24600	1062	1858
6010S CHROMIUM		1970	5.40	5.4	10.64	19.31	9.08	11.00	10.64	19.31
6010S COBALT		23600			3.45	5.78	3.76	5.00	3.45	5.78
6010S COPPER			11.50	11.5	14.64	29.53	12.32	19.10	14.64	29.53
6010S IRON					13375	22307	11108	13600	13375	22307
7421S LEAD			14.10	14.1	108.74	307.51	11.77	19.60	108.74	307.51
6010S MAGNESIUM					1534	2457	1796	2490	1534	2457
6010S MANGANESE					199.51	380.97	162.80	211.00	199.51	380.97
747ZS MERCURY	14		1.60	1.6	0.13	0.39	0.07	0.24	0.13	0.39
6010S NICKEL		7870	4.40	4.4	6.58	11.51	8.77	11.20	6.58	11.51
6010S POTASSIUM					484.27	732.87	564.00	1210.00	484.27	732.87
6010S SODIUM					187.71	312.29	127.00	219.00	187.71	312.29
6010S VANADIUM		2760	10.10	10.1	15.10	26.13	8.20	12.40	15.10	26.13
6010S ZINC		118000	48.70	48.7	59.94	140.08	100.00	318.00	59.94	140.08
9010S CYANIDE		7870			1.21	2.69	2.72	13.60	1.21	2.69

Dioxin/Furan results in parenthesis are not used in the mean calculation, due to QC problems.

All results in mg/kg (ppm).

R, RV - Rejected.

U - Undetected; number represents one half of detection limit.

J - Estimated.

NA - Not analyzed.

Phase II results are not final data.

TABLE 3-3
CIBA-GEIGY
ANALYTICAL RESULTS
PRODUCTION AREA - SWMU-7 SOIL SAMPLES
PHASE I AND PHASE II DATA

SITE LOCATOR SAMPLE NUMBER COLLECT DATE	MPS	Mean Surface	Maximum Surface	95th UCL of Mean Background	95th UTL of 95th Percentile Background	Mean Subsurface	Maximum Subsurface	95th UCL of Mean Background	95th UTL of 95th Percentile Background
VOLATILE ORGANICS									
8240S 2-BUTANONE	197000			0.100	0.237	0.074	0.3	0.100	0.237
8240S ACROLEIN				0.112	0.126			0.112	0.126
8240S CHLOROBENZENE	78700			0.037	0.088	0.020	0.018	0.037	0.088
8240S ETHYLBENZENE	394000	0.020	0.12	0.037	0.088	0.018	0.067	0.037	0.088
8240S M&P-XYLENE	1570000	0.079	0.43	0.037	0.088	0.288	2	0.037	0.088
8240S METHYLENE CHLORIDE				0.349	1.170	0.045	0.046	0.349	1.170
8240S N-OCTANE									
8240S O-XYLENE	1570000	0.021	0.11	0.037	0.088	0.074	0.44	0.037	0.088
8240S STYRENE	787000	0.015	0.049	0.037	0.088			0.037	0.088
8240S TETRACHLOROETHENE	17.7	0.016	0.0068	0.037	0.088			0.037	0.088
8240S TOLUENE	787000	0.580	4.6	0.135	0.487	0.075	0.53	0.135	0.487
SEMIVOLATILE ORGANICS									
8270S 2,4-DIMETHYLPHENOL	78700			0.327	0.797	0.260	0.095	0.327	0.797
8270S 2-METHYLNAPHTHALENE	15700	0.854	0.063	0.516	1.734			0.516	1.734
8270S 2-NITROANILINE		3.964	0.35	1.673	4.077	1.763	4.2	1.673	4.077
8270S 2-NITROPHENOL				0.327	0.797	0.257	0.075	0.327	0.797
8270S 3&4-METHYLPHENOL		0.126	0.053	0.186	0.242	0.186	0.51	0.186	0.242
8270S 3,3'-DICHLOROBENZIDINE				0.660	1.615	0.580	0.73	0.660	1.615
8270S 4-CHLOROANILINE		0.990	0.17	0.422	0.871	0.370	0.1	0.422	0.871
8270S 4-METHYLPHENOL	19700			0.497	1.222	0.325	0.1	0.497	1.222
8270S 4-NITROQUINOLINE-N-OXIDE				3.498	5.081			3.498	5.081
8270S ACENAPHTHENE	236000	0.858	0.071	0.580	2.015			0.580	2.015
8270S ACENAPHTHYLENE	15700	0.871	0.066	0.347	0.926			0.347	0.926
8270S ACETOPHENONE				0.327	0.797	0.252	0.33	0.327	0.797
8270S ANILINE		0.891	0.23	0.327	0.797	0.278	0.22	0.327	0.797
8270S ANTHRACENE	1180000	0.860	0.26	1.608	6.924	0.253	0.042	1.608	6.924
8270S BENZO(A)ANTHRACENE	32	0.939	0.74	2.508	10.221	0.368	1.2	2.508	10.221
8270S BENZO(A)PYRENE	4.8	0.951	0.69	2.100	8.180	0.344	1	2.100	8.180
8270S BENZO(B)FLUORANTHENE	39	1.018	1	3.248	13.005	0.498	2.1	3.248	13.005
8270S BENZO(G,H,I)PERYLENE	15700	0.900	0.35	1.250	4.558	0.332	0.74	1.250	4.558
8270S BENZO(K)FLUORANTHENE	92	0.875	0.37	3.424	14.783	0.281	0.64	3.424	14.783
8270S BIS(2-ETHYLHEXYL)PHTHALATE	65.6	0.861	0.28	0.995	3.891	0.365	0.48	0.995	3.891
8270S BUTYLBENZYLPHTHALATE	787000	0.860	0.096	0.316	0.798	0.218	0.13	0.316	0.798
8270S CHRYSENE	1100	0.983	0.85	2.691	10.787	0.353	0.89	2.691	10.787
8270S DI-N-BUTYLPHTHALATE	394000	0.856	0.16	0.328	0.797	0.165	0.1	0.328	0.797
8270S DIBENZ(A,H)ANTHRACENE	4.3	0.827	0.11	0.483	1.544			0.483	1.544
8270S DIBENZOFURAN		0.857	0.087	0.864	3.407			0.864	3.407
8270S FLUORANTHENE	157000	1.176	1.9	4.734	19.879	0.325	0.84	4.734	19.879
8270S FLUORENE	157000	0.859	0.085	0.856	3.330			0.856	3.330
8270S INDENO(1,2,3-CD)PYRENE	17	0.861	0.33	1.394	5.265	0.287	0.67	1.394	5.265
8270S NAPHTHALENE	15700	0.798	0.092	0.678	2.599	0.132	0.17	0.678	2.599
8270S NITROBENZENE	1970			0.327	0.797	0.510	2.1	0.327	0.797
8270S PHENANTHRENE	15700	1.1	1.2	5.617	27.078	0.146	0.19	5.617	27.078
8270S PHENOL	236000			0.327	0.797	0.231	0.24	0.327	0.797
8270S PYRENE	118000	1.226	2	5.117	20.698	0.519	2.2	5.117	20.698
8270S TINUVIN 327	984	10.063	5.9	2.525	6.254	5.783	12	2.525	6.254
8270S TRCDF		3.225	2.4	0.488	1.586	0.643	0.83	0.488	1.586
ORGANOCHLORINE PESTICIDES/PCBS									
8080S 4,4'-DDT		2.70		0.650	3.087	0.027	0.084	0.650	3.087
8080S ALDRIN		0.054		0.002	0.005	0.059	0.44	0.002	0.005
8080S ALPHA-CHLORDANE		0.707	0.010	0.0025	0.002	0.006		0.002	0.006
8080S CHLOROBENZILATE				0.030	0.073	0.071	0.098	0.030	0.073
8080S ENDOSULFAN SULFATE				0.006	0.019	0.048	0.096	0.006	0.019
8080S GAMMA-BHC		0.707		0.002	0.005	0.011	0.006	0.002	0.005
8080S GAMMA-CHLORDANE		0.707	0.017	0.037	0.002	0.006	0.016	0.028	0.002
8080S HEPTACHLOR		0.204	0.008	0.014	0.002	0.005	0.011	0.008	0.005
8080S ISODRIN		0.054			0.003	0.008	0.016	0.01	0.003
8080S METHOXYCHLOR		1970	0.210	1.2	0.062	0.279			0.062
8080S PCB-1254		27.6	2.730	6	0.037	0.112	0.638	1.6	0.037
									0.112

All results in mg/kg (ppm).

R, RV - Rejected

U - Undetected; number represents one half of detection limit.

J - Estimated value.

NA - Not analyzed.

Phase II results are not final data.

TABLE 3-3
CIBA-GEIGY
ANALYTICAL RESULTS
PRODUCTION AREA - SWMU-7 SOIL SAMPLES
PHASE I AND PHASE II DATA

SITE LOCATOR SAMPLE NUMBER COLLECT DATE	MPS	Mean Surface	Maximum Surface	95th UCL of Mean Background	95th UTL of 95th Percentile Background	Mean Subsurface	Maximum Subsurface	95th UCL of Mean Background	95th UTL of 95th Percentile Background
VOLATILE ORGANICS									
8080S PCB-1260	4.5	1.320	6.1	0.032	0.098	2.250	13	0.032	0.098
ORGANOPHOSPHORUS PESTICIDES									
8142S FAMPHUR	787	0.146	0.0062	0.150	0.278			0.150	0.278
8142S METHYL PARATHION	787			0.008	0.014	0.009	0.007	0.008	0.014
DIOXIN/FURAN									
SOWZS OCDD	0.23	0.0004225	0.00046	0.00055	0.00124			0.00055	0.00124
SOWZS PECDF				0.00004	0.00008			0.00004	0.00008
SOWZS TCDF	0.0023	0.0001	0.00013	0.00002	0.00005	0.00008	0.0012	0.00002	0.00005
HERBICIDES									
8152S DINOSEB	394	0.008	0.0087	0.00477	0.00887			0.00477	0.00887
INORGANICS									
7060S ARSENIC	19	2.585	5.3	11.78	28.44	5.233	9.5	11.78	28.44
6010S BARIUM	27600	17.138	29.4	40.51	111.81	12.783	15	40.51	111.81
6010S BERYLLIUM	8.1	0.284	0.38	0.48	0.91	0.235	0.25	0.48	0.91
6010S CADMIUM	394	0.411	0.6	0.31	0.55			0.31	0.55
6010S CALCIUM		8145	10700	1062	1858	2908.500	5070	1062	1858
6010S CHROMIUM	1970	4.800	8.5	10.64	19.31	6.767	8.8	10.64	19.31
6010S COBALT	23600	2.363	2.6	3.45	5.78	2.250	3.1	3.45	5.78
6010S COPPER		6.450	11.1	14.64	29.53	12.800	17.9	14.64	29.53
6010S IRON		7830	8490	1375	22307	7135.000	9920	1375	22307
7421S LEAD		11.625	23.6	108.74	307.51	14.033	16.9	108.74	307.51
6010S MAGNESIUM		1915	2600	1534	2457	1008.000	1310	1534	2457
6010S MANGANESE		133.500	145	199.51	380.97	77.250	91.1	199.51	380.97
7472S MERCURY		0.128	0.26	0.13	0.39	0.123	0.16	0.13	0.39
6010S NICKEL	7870	4.488	8.4	6.58	11.51	7.267	7.7	6.58	11.51
6010S POTASSIUM		692	739	484.27	732.87	498	551	484.27	732.87
6010S SODIUM		104.250	150	187.71	312.29	122.250	156	187.71	312.29
6010S VANADIUM	2760	5.675	9.7	15.10	26.13	5.533	6.4	15.10	26.13
6010S ZINC	118000	74.150	178	59.94	140.08	30.050	49.5	59.94	140.08
9010S CYANIDE	7870	1.632	3	1.21	2.69	2.604	11.1	1.21	2.69

Dioxin/Furan results in parenthesis are not used in the mean calculation, due to QC problems.

All results in mg/kg (ppm).

R, RV - Rejected.

U - Undetected; number represents one half of detection limit.

J - Estimated value.

NA - Not analyzed.

Phase II results are not final data.

TABLE 3-4
CIBA-GEIGY
ANALYTICAL RESULTS
PRODUCTION AREA - SWMU-8 SOIL SAMPLES
PHASE I AND PHASE II DATA

SITE LOCATOR SAMPLE NUMBER COLLECT DATE	New Jersey Soil Cleanup Criteria	MPS	Mean Surface	Maximum Surface	95th UCL of Mean Background	95th UTL of 95th Percentile Background	Mean Subsurface	Maximum Subsurface	95th UCL of Mean Background	95th UTL of 95th Percentile Background
VOLATILE ORGANICS										
8240S ACETONE		1000			0.080	0.175	0.490	0.053	0.080	0.175
8240S ACRYLIC					0.112	0.126			0.112	0.126
8240S ETHYLBENZENE		394000	7.186	50	0.037	0.088	0.897	5.5	0.037	0.088
8240S ISOBUTANOL					1.107	1.276			1.107	1.276
8240S M&P-XYLENE		1570000	57.325	400	0.037	0.088	4.742	30	0.037	0.088
8240S METHYLENE CHLORIDE			0.961	0.0095	0.349	1.170	0.117	0.0096	0.349	1.170
8240S O-XYLENE		1570000	17.199	120	0.037	0.088	1.685	11	0.037	0.088
8240S TOLUENE		787000	1.296	4.6	0.135	0.487	0.099	0.042	0.135	0.487
8240S TRANS-1,4-DICHLORO-2-BUTENE					0.073	0.176			0.073	0.176
SEMI-VOLATILE ORGANICS										
8270S 1,2-DICHLOROBENZENE		354000	0.909	0.12	0.327	0.797			0.327	0.797
8270S 2,4-DIMETHYLPHENOL		78700	0.961	0.11	0.327	0.797	0.750	1.7	0.327	0.797
8270S 2,4-DINITROPHENOL					1.896	4.301			1.896	4.301
8270S 2-METHYLNAPHTHALENE		15700	0.958	0.094	0.516	1.734	0.413	0.081	0.516	1.734
8270S 2-METHYLPHENOL		2800			0.327	0.797	0.411	0.084	0.327	0.797
8270S 2-NITROANILINE			4.792	0.2	1.673	4.077			1.673	4.077
8270S 3&4-METHYLPHENOL		19700	0.141	0.045	0.186	0.242	0.384	0.17	0.186	0.242
8270S 4-CHLOROANILINE		230	1.072	0.64	0.422	0.871	0.353	0.36	0.422	0.871
8270S 4-NITROQUINOLINE-N-OXIDE					3.498	5.081			3.498	5.081
8270S ACENAPHTHENE		236000	0.883	0.21	0.580	2.015	0.408	0.049	0.580	2.015
8270S ACENAPHTHYLENE		15700	0.966	0.14	0.347	0.926			0.347	0.926
8270S ACETOPHENONE			0.953	0.048	0.327	0.797	0.523	0.66	0.327	0.797
8270S ANILINE					0.327	0.797	0.438	0.28	0.327	0.797
8270S ANTHRACENE		1180000	1.050	0.84	1.608	6.924	0.343	0.18	1.608	6.924
8270S ARAMITE					2.579	7.819			2.579	7.819
8270S BENZO(A)ANTHRACENE		32	1.300	3	2.508	10.221	0.358	0.62	2.508	10.221
8270S BENZO(A)PYRENE		4.8	1.949	3.1	2.100	8.180	0.419	0.65	2.100	8.180
8270S BENZO(B)FLUORANTHENE		39	1.929	4	3.248	13.005	0.561	0.93	3.248	13.005
8270S BENZO(G,H,I)PERYLENE		15700	1.469	1.8	1.250	4.558	0.468	0.54	1.250	4.558
8270S BENZO(K)FLUORANTHENE		92	1.359	2.7	3.424	14.783	0.453	1.2	3.424	14.783
8270S BIS(2-CHLOROETHYL)ETHER		0.66			0.327	0.797	0.406	0.05	0.327	0.797
8270S BIS(2-ETHYLHEXYL)PHTHALATE		65.6	1.076	0.59	0.995	3.891	0.651	2.2	0.995	3.891
8270S BUTYLBENZYL PHTHALATE		787000	0.987	0.8	0.316	0.798	0.410	0.37	0.316	0.798
8270S CHRYSENE		1100	1.451	3.3	2.691	10.787	0.451	0.60	2.691	10.787
8270S DI-N-BUTYL PHTHALATE		394000	0.906	0.069	0.328	0.797	0.343	0.07	0.328	0.797
8270S DIBENZ(A,H)ANTHRACENE		4.3	0.918	0.3	0.483	1.544	0.236	0.22	0.483	1.544
8270S DIBENZOFURAN			0.768	0.11	0.864	3.407			0.864	3.407
8270S FLUORANTHENE		157000	2.086	4.1	4.734	19.879	0.679	1.1	4.734	19.879
8270S FLUORENE		157000	0.876	0.18	0.856	3.330	0.358	0.061	0.856	3.330
8270S INDENO(1,2,3-CD)PYRENE		17	1.436	1.7	1.394	5.265	0.347	0.43	1.394	5.265
8270S IRGASAN DP-300		1690	7.361	0.57	1.307	3.990			1.307	3.990
8270S N-NITROSO-DI-N-PROPYLAMINE		0.131			0.293	0.786			0.293	0.786
8270S NAPHTHALENE		15700	0.254	0.68	0.678	2.599	0.374	0.073	0.678	2.599
8270S NITROBENZENE		1970	0.837	0.14	0.327	0.797			0.327	0.797
8270S PENTACHLORONITROBENZENE					0.327	0.797			0.327	0.797
SEMI-VOLATILE ORGANICS (Con't)										
8270S PHENANTHRENE		15700	1.189	2	5.617	27.078	0.42	0.72	5.617	27.078
8270S PROPAZINE					1.392	3.995			1.392	3.995
8270S PYRENE		118000	2.971	6.7	5.117	20.698	0.872	1.3	5.117	20.698
8270S TINUVIN 327		984			2.525	6.254			2.525	6.254
8270S TOFRANIL					2.127	4.435			2.127	4.435
8270S TRCDF			3.200	1.2	0.488	1.586	0.400		0.488	1.586
ORGANOCHLORINE PESTICIDES/PCBS										
8080S ALPHA-BHC		0.146			0.002	0.005	0.003	0.018	0.002	0.005
8080S BETA-BHC		0.51			0.019	0.089	0.014	0.1	0.019	0.089
8080S GAMMA-BHC		0.707			0.002	0.005	0.006	0.036	0.002	0.005
8080S GAMMA-CHLORDANE		0.707	0.029	0.14	0.002	0.006	0.005	0.024	0.002	0.006
8080S METHOXYCHLOR		1970	0.699	3.6	0.062	0.279	0.073	0.44	0.062	0.279
8080S PCB-1254		27.6	3.386	12	0.037	0.112	0.651	3.5	0.037	0.112
ORGANOPHOSPHORUS PESTICIDES										
814ZS METHYL PARATHION		787	0.009	0.0056	0.008	0.014			0.008	0.014
DIONINS/FURANS										
SOWZS HXCCD					0.00007	0.00012			0.00007	0.00012
SOWZS TCDF					0.00002	0.00005			0.00002	0.00005

All results in mg/kg (ppm)

R. RV - Rejected

U - Undetected; number represents one half of detection limit.

J - Estimated value

NA - Not analyzed.

Phase II results are not final data.

TABLE 3-4
CIBA-GEIGY
ANALYTICAL RESULTS
PRODUCTION AREA - SWMU-8 SOIL SAMPLES
PHASE I AND PHASE II DATA

SITE LOCATOR SAMPLE NUMBER COLLECT DATE	New Jersey Soil Cleanup Criteria	MPS	Mean Surface	Maximum Surface	95th UCL of Mean Background	95th UTL of 95th Percentile Background	Mean Subsurface	Maximum Subsurface	95th UCL of Mean Background	95th UTL of 95th Percentile Background
HERBICIDES:										
815ZS 2,4,5-T		3150			0.00816	0.01345	0.012	0.017	0.00816	0.01345
815ZS 2,4,5-TP (SILVEX)		39400	0.00813	0.006	0.00785	0.01329			0.00785	0.01329
815ZS 2,4-D		3940			0.02381	0.05278	0.061	0.11	0.02381	0.05278
INORGANICS:										
7060S ARSENIC		19	5.6	9.2	11.8	28.4	5.2	7.0	11.8	28.4
6010S BARIUM		27600	35.9	49.6	40.5	111.8	36.0	45.3	40.5	111.8
6010S BERYLLIUM		8	0.5	0.7	0.5	0.9	0.3	0.3	0.5	0.9
6010S CALCIUM			20070	45600	1062	1858	173	173	1062	1858
6010S CHROMIUM			1970	8.6	12.9	10.6	19.3	6.4	12.1	10.6
6010S COBALT			23600	3.0	4.3	3.5	5.8	3.4	6.4	3.5
6010S COPPER	600.0		12.1	19.7	14.6	29.5	24.8	48.7	14.6	29.5
6010S IRON			8957	11600	13375	22307	925	925	13375	22307
7421S LEAD				16.8	23.0	108.7	307.5	15.3	23.5	108.7
6010S MAGNESIUM				1623	2580	1534	2457	108	108	1534
6010S MANGANESE				140.7	179.0	199.5	381.0	15.2	15.2	199.5
7472S MERCURY		118	0.258	0.62	0.13312	0.38768	0.385	0.44	0.13312	0.38768
6010S NICKEL		7870	5.6	7.2	6.6	11.5	8.2	15.7	6.6	11.5
6010S POTASSIUM			794	1000	484	733	73	73	484	733
6010S SODIUM				145.2	234.0	187.7	312.3	29.5	29.5	187.7
6010S VANADIUM				2760	9.8	16.5	15.1	26.1	5.3	9.7
6010S ZINC				118000	223.0	339.0	59.9	140.1	69.1	135.0
9010S CYANIDE			7870	1.2	1.7	1.2	2.7			1.2

All results in mg/kg (ppm).

R, RV - Rejected.

U - Undetected; number represents one half of detection limit.

J - Estimated value.

NA - Not analyzed.

Phase II results are not final data.

TABLE 3-5
CIBA-GEIGY
ANALYTICAL RESULTS
PRODUCTION AREA - SWMU -11
PHASE I AND PHASE II DATA

3/2/94

SITE LOCATOR SAMPLE NUMBER COLLECT DATE	MPS	Mean Subsurface	Maximum Subsurface	95th UCL of Mean Background	95th UTL of 95th Percentile Background
VOLATILE ORGANICS					
8240S ACRYLIC ACID				0.112	0.126
8240S CHLOROBENZENE	78700	10.038	0.150	0.037	0.088
8240S ETHYLBENZENE	394000	15.775	29.000	0.037	0.088
8240S M&P-XYLENE	1570000	60.300	120.000	0.037	0.088
8240S O-XYLENE	1570000	13.675	27.000	0.037	0.088
8240S TOLUENE	787000	611.000	1200.000	0.135	0.487
SEMI-VOLATILE ORGANICS					
8270S 1,2,4-TRICHLOROBENZENE	3940	1.705	0.640	0.327	0.797
8270S 1,2-DICHLOROBENZENE	354000	1.815	0.760	0.327	0.797
8270S 2,4-DICHLOROPHENOL	1180	4.000	6.200	0.327	0.797
8270S 2,6-DICHLOROPHENOL	1180	2.325	2.800	0.327	0.797
8270S 4-METHYLPHENOL	19700	1.658	0.130	0.497	1.222
8270S 4-NITROQUINOLINE-N-OXIDE				3.498	5.081
8270S ACENAPHTHENE	236000	1.695	0.280	0.580	2.015
8270S ANTHRACENE	1180000	1.715	0.650	1.608	6.924
8270S BENZO(A)ANTHRACENE	32	1.703	0.310	2.508	10.221
8270S BENZO(B)FLUORANTHENE	39	1.728	0.410	3.248	13.005
8270S BENZO(K)FLUORANTHENE	92	1.748	0.490	3.424	14.783
8270S CHRYSENE	1100	1.720	0.380	2.691	10.787
8270S DCDD		3.300	0.600	0.488	1.586
8270S DCDF		4.913	15.000	0.488	1.586
8270S DIBENZOFURAN		1.635	0.400	0.864	3.407
8270S DIETHYLPHthalATE	3150000	0.543	0.670	0.327	0.797
8270S FLUORANTHENE	157000	0.588	1.200	4.734	19.879
8270S FLUORENE	157000	1.665	0.160	0.856	3.330
8270S IRGASAN DP-300	1690	199.750	390.000	1.307	3.990
8270S NAPHTHALENE	15700	0.485	0.680	0.678	2.599
8270S NITROBENZENE	1970	1.695	0.280	0.327	0.797
8270S P-PHENYLENEDIAMINE	74800	11.675	15.000	1.827	4.522
8270S PENTACHLORONITROBENZENE				0.327	0.797
8270S PHENANTHRENE	15700	0.591	1.000	5.617	27.078
8270S PHENOL	236000	1.673	0.540	0.327	0.797
8270S PYRENE	118000	1.660	0.740	5.117	20.698
8270S TRCDF		134.750	270.000	0.488	1.586
ORGANOCHLORINE PESTICIDES/PCBS					
8080S 4,4'-DDD	3.83	0.078	0.230	0.072	0.360
8080S 4,4'-DDE	2.7	0.192	0.710	0.112	0.401
8080S 4,4'-DDT	2.7	0.115	0.350	0.650	3.087
8080S DELTA-BHC	1180	0.042	0.086	0.002	0.005
8080S HEPTACHLOR	0.204	0.031	0.042	0.002	0.005
8080S ISODRIN	0.054	0.069	0.220	0.003	0.008
8080S PCB-1254	27.6	2.664	9.000	0.037	0.112
ORGANOPHOSPHORUS PESTICIDES					
8142S DIMETHOATE				0.136	0.290
8142S DISULFOTON	15.7			0.059	0.111
8142S ETHYL PARATHION	2360	0.031	0.013	0.019	0.031
8142S FAMPUR	787			0.150	0.278
8142S METHYL PARATHION	787			0.008	0.014
8142S O,O,O-TRIETHYLPHOSPHORTHOATE				0.161	0.301
8142S PHORATE				0.021	0.035
8142S SULFOTEPP				0.013	0.022
8142S THIONAZIN				0.093	0.227
HERBICIDES					
8152S 2,4,5-TP (SILVEX)	39400	0.008	0.007	0.008	0.013
8152S 2,4-D	3940	0.037	0.016	0.024	0.053
DIOXINS/FURANS					
SOWZS PECDF				0.00004	0.00008
SOWZS TCDF				0.00002	0.00005

All results in mg/kg (ppm).

R, RV - Rejected.

U - Undetected; number represents one half of detection limit.

J - Estimated value.

NA - Not analyzed

TABLE 3-5
CIBA-GEIGY
ANALYTICAL RESULTS
PRODUCTION AREA - SWMU-11
PHASE I AND PHASE II DATA

SITE LOCATOR SAMPLE NUMBER COLLECT DATE	MPS	Mean Subsurface	Maximum Subsurface	95th UCL of Mean Background	95th UTL of 95th Percentile Background
INORGANICS					
7060S ARSENIC	19	5.2	6.9	11.8	28.4
6010S BARIUM	27600	22.1	25.5	40.5	111.8
6010S BERYLLIUM	8.1	0.4	0.5	0.5	0.9
6010S CALCIUM		3456	7770	1062	1858
6010S CHROMIUM	1970	9.6	19.0	10.6	19.3
6010S COBALT	23600	3.2	4.5	3.5	5.8
6010S COPPER		6.0	8.4	14.6	29.5
6010S IRON		10910	15000	13375	22307
7421S LEAD		7.1	11.0	108.7	307.5
6010S MAGNESIUM		1140	1340	1534	2457
6010S MANGANESE		155.0	200.0	199.5	381.0
7472S MERCURY	118	0.5363	1.6	0.13312	0.38768
6010S NICKEL	7870	3.9	5.2	6.6	11.5
6010S POTASSIUM		718	1040	484	733
6010S SODIUM		245.4	350.0	187.7	312.3
6010S VANADIUM	2760	7.9	8.8	15.1	26.1
6010S ZINC	118000	34.1	39.9	59.9	140.1

Dioxin/Furan results in parenthesis are not used in mean concentrations due to QC problems.

All results in mg/kg (ppm).

R, RV - Rejected.

U - Undetected; number represents one half of detection limit.

J - Estimated value.

NA - Not analyzed.

TABLE 3-6
CIBA-GEIGY
ANALYTICAL RESULTS
PRODUCTION AREA - AOC13

3/2/94

SITE LOCATOR SAMPLE NUMBER COLLECT DATE	New Jersey Soil Cleanup Criteria	MPS	Mean Subsurface	Maximum Subsurface	95th UCL of Mean Background	95th UTL of 95th Percentile Background	Mean Surface	Maximum Surface	95th UCL of Mean Background	95th UTL of 95th Percentile Background
VOLATILE ORGANICS										
8240S ACROLEIN					0.112	0.126			0.112	0.126
8240S CHLOROBENZENE		78700			0.037	0.088	0.067	0.280	0.037	0.088
8240S CHLOROFORM					0.036	0.086	0.054	0.034	0.036	0.086
8240S ETHYLBENZENE		394000			0.037	0.088	0.051	0.058	0.037	0.088
8240S ISOBUTANOL					1.107	1.276			1.107	1.276
8240S M&P-XYLENE		1570000			0.037	0.088	0.067	0.270	0.037	0.088
8240S O-XYLENE		1570000			0.037	0.088	0.039	0.110	0.037	0.088
8240S STYRENE		787000			0.037	0.088	0.054	0.039	0.037	0.088
8240S TETRACHLOROETHENE		17.7			0.037	0.088	0.056	0.069	0.037	0.088
8240S TOLUENE		787000			0.135	0.487	0.100	0.420	0.135	0.487
8240S TRICHLOROFLUOROMETHANE		276000			0.073	0.176	0.128	0.330	0.073	0.176
SEMI-VOLATILE ORGANICS										
8270S 1,2-DICHLOROBENZENE		354000			0.327	0.797	1.849	0.120	0.327	0.797
8270S 1,4-DICHLOROBENZENE		38.3			0.327	0.797	1.855	0.240	0.327	0.797
8270S 2,4-DINITROPHENOL					1.896	4.301			1.896	4.301
8270S 2-METHYLNAPHTHALENE		15700			0.516	1.734	1.862	0.380	0.516	1.734
8270S 4-METHYLPHENOL		19700			0.497	1.222	1.855	0.240	0.497	1.222
8270S 4-NITROQUINOLINE-N-OXIDE					3.498	5.081			3.498	5.081
8270S ACENAPHTHENE		236000			0.580	2.015	1.831	0.180	0.580	2.015
8270S ACENAPHTHYLENE		15700			0.347	0.926	1.845	0.043	0.347	0.926
8270S ANTHRACENE		1180000			1.608	6.924	1.045	1.600	1.608	6.924
8270S ARAMITE					2.579	7.819			2.579	7.819
8270S BENZO(A)ANTHRACENE		32			2.508	10.221	1.391	3.100	2.508	10.221
8270S BENZO(A)PYRENE		4.8	0.1025	0.15	2.100	8.180	1.450	2.200	2.100	8.180
8270S BENZO(B)FLUORANTHENE		39	0.138	0.2	3.248	13.005	1.944	4.300	3.248	13.005
8270S BENZO(G,H,I)PERYLENE		15700	0.128	0.086	1.250	4.558	1.796	2.900	1.250	4.558
8270S BENZO(K)FLUORANTHENE		92	0.067	0.098	3.424	14.783	2.175	5.500	3.424	14.783
8270S BIS(2-CHLOROETHYL)ETHER					0.327	0.797	1.877	0.680	0.327	0.797
8270S BIS(2-ETHYLHEXYL)PHTHALATE		65.6	0.385	0.6	0.995	3.891	1.463	4.100	0.995	3.891
8270S BUTAZOLIDIN		1180			2.132	4.465	9.435	5.200	2.132	4.465
8270S BUTYLBENZYLPHthalate		787000			0.316	0.798	3.017	33.000	0.316	0.798
8270S CHRYSENE		1100	0.096	0.14	2.691	10.787	1.514	3.200	2.691	10.787
8270S DI-N-BUTYLPHthalate		394000			0.328	0.797	1.326	1.300	0.328	0.797
8270S DIBENZ(A,H)ANTHRACENE		4.3			0.483	1.544	1.837	0.680	0.483	1.544
8270S DIBENZOFURAN					0.864	3.407	1.803	0.130	0.864	3.407
8270S DIMETHYLPHthalate		3940000			0.327	0.797	1.743	0.250	0.327	0.797
8270S FLUORANTHENE		157000	0.1535	0.23	4.734	19.879	1.883	8.400	4.734	19.879
8270S FLUORENE		157000			0.856	3.330	1.774	0.110	0.856	3.330
8270S INDENO(1,2,3-CD)PYRENE		17	0.097	0.089	1.394	5.265	1.779	2.300	1.394	5.265
8270S IRGASAN DP-300		1690			1.307	3.990	9.308	4.200	1.307	3.990
8270S N-NITROSO-DI-N-PROPYLAMINE		0.131			0.293	0.786			0.293	0.786
8270S NAPHTHALENE		15700			0.678	2.599	1.250	0.430	0.678	2.599
8270S PENTACHLORONITROBENZENE					0.327	0.797			0.327	0.797
8270S PHENANTHRENE		15700	0.1155	0.061	5.617	27.078	1.399	5.000	5.617	27.078
8270S PHENOL		236000			0.327	0.797	1.874	0.630	0.327	0.797
8270S PYRENE		1180000	0.19	0.28	5.117	20.698	1.866	6.000	5.117	20.698
8270S TINUVIN 327		984			2.525	6.254	8.220	5.200	2.525	6.254
8270S TRCDF					0.488	1.586	3.050	3.900	0.488	1.586
ORGANOCHLORINE PESTICIDES/PCBS										
8080S 4,4'-DDD		3.83			0.072	0.360	0.066	0.003	0.072	0.360
8080S ALDRIN		0.054			0.002	0.005	0.051	0.004	0.002	0.005
8080S ALPHA-BHC		0.146			0.002	0.005	0.051	0.002	0.002	0.005
8080S ALPHA-CHLORDANE		0.707			0.002	0.006	0.051	0.010	0.002	0.006
8080S DELTA-BHC		1180			0.002	0.005	0.051	0.002	0.002	0.005
8080S ENDRIN ALDEHYDE					0.003	0.010	0.099	0.001	0.003	0.010
8080S GAMMA-BHC		0.707			0.002	0.005	0.051	0.003	0.002	0.005
8080S GAMMA-CHLORDANE		0.707			0.002	0.006	0.111	1.700	0.002	0.006
8080S KEPONE		1.9			0.026	0.083	0.205	0.015	0.026	0.083
8080S PCB-1248					0.026	0.078	7.155	150.000	0.026	0.078
8080S PCB-1254		27.6	0.207	0.34	0.037	0.112	21.205	77.000	0.037	0.112
ORGANOPHOSPHORUS PESTICIDES										
8142S FAMPHUR		787			0.150	0.278	0.131	0.016	0.150	0.278
8142S METHYL PARATHION		787			0.008	0.014		0.007	0.008	0.014
8142S SULFOTEPP					0.013	0.022	0.027	0.009	0.013	0.022

All results in mg/kg (ppm).

U - Undetected; number represents one half of detection limit.

R - Rejected by validation.

J - Estimated value.

NA - Not analyzed.

TABLE 3-6
CIBA-GEIGY
ANALYTICAL RESULTS
PRODUCTION AREA - AOC13

3/2/94

SITE LOCATOR SAMPLE NUMBER COLLECT DATE	New Jersey Soil Cleanup Criteria	MPS	Mean Subsurface	Maximum Subsurface	95th UCL of Mean Background	95th UTL of 95th Percentile Background	Mean Surface	Maximum Surface	95th UCL of Mean Background	95th UTL of 95th Percentile Background
HERBICIDES										
815ZS DINOSEB		394			0.00477	0.00887	0.01	0.004	0.00477	0.00887
DIOXINS/FURANS										
SOWZS HXCDF					0.00004	0.00007			0.00004	0.00007
SOWZS PECDF					0.00004	0.00008			0.00004	0.00008
SOWZS TCDF					0.00002	0.00005			0.00002	0.00005
INORGANICS										
7041S ANTIMONY					0.4	2.1			0.4	2.1
7060S ARSENIC		19	1.19	1.9	11.8	28.4	12.1	125.0	11.8	28.4
6010S BARIUM		27600			40.5	111.8	55.9	106.0	40.5	111.8
6010S BERYLLIUM		8.1			0.5	0.9	0.4	0.7	0.5	0.9
6010S CADMIUM		394			0.3	0.6	0.8	3.9	0.3	0.6
6010S CALCIUM					1062	1858	22003	58500	1062	1858
6010S CHROMIUM		1970	6.8	7.8	10.6	19.3	13.4	30.7	10.6	19.3
6010S COBALT		23600			3.5	5.8	3.3	6.0	3.5	5.8
6010S COPPER		600	8.5	11.1	14.6	29.5	21.6	76.1	14.6	29.5
6010S IRON					13375	22307	10940	21300	13375	22307
7421S LEAD		100			108.7	307.5	73.8	378.0	108.7	307.5
6010S MAGNESIUM					1534	2457	2204	5360	1534	2457
6010S MANGANESE					199.5	381.0	173.9	359.0	199.5	381.0
747ZS MERCURY		118			0.1	0.4	0.5	1.5	0.1	0.4
6010S NICKEL		7870	6.75	8.4	6.6	11.5	9.2	26.6	6.6	11.5
6010S POTASSIUM					484.3	732.9	863.0	1260.0	484.3	732.9
6010S SODIUM					187.7	312.3	155.8	329.0	187.7	312.3
SN2ZS TIN		236000			25.2	79.2	5.4	25.6	25.2	79.2
6010S VANADIUM		2760			15.1	26.1	18.4	108.0	15.1	26.1
6010S ZINC		118000	64.6	80.1	59.9	140.1	210.3	759.0	59.9	140.1
9010S CYANIDE		7870	1.75	2	1.2	2.7	1.4	12.6	1.2	2.7
9030S SULFIDE					98.8	342.5	24.1	66.0	98.8	342.5

Dioxin/Furan results in parenthesis are not used in the mean calculation, due to QC problems.

All results in mg/kg (ppm).

U - Undetected; number represents one half of detection limit.

R - Rejected by validation.

J - Estimated value.

NA - Not analyzed.

TABLE 3-7
CIBA-GEIGY
ANALYTICAL RESULTS
PRODUCTION AREA - AOI1S
PHASE I AND PHASE II DATA

SITE LOCATOR SAMPLE NUMBER COLLECT DATE	MPS	Mean Surface	Maximum Surface	95th UCL of Mean Background	95th UTL of 95th Percentile Background	Mean Subsurface	Maximum Subsurface	95th UCL of Mean Background	95th UTL of 95th Percentile Background
VOLATILE ORGANICS									
8240S ACRYLIC ACID				0.112	0.126			0.112	0.126
8240S ISOBUTANOL				1.107	1.276			1.107	1.276
8240S M&P-XYLENE	1570000			0.037	0.088	0.043	0.008	0.037	0.088
8240S TOLUENE	787000			0.135	0.487	0.032	0.016	0.135	0.487
SEMI-VOLATILE ORGANICS									
8270S 4-NITROQUINOLINE-N-OXIDE				3.498	5.081			3.498	5.081
8270S ACENAPHTHENE	236000	0.100	0.030	0.380	2.015			0.580	2.015
8270S ACENAPHTHYLENE	15700	0.123	0.200	0.347	0.926			0.347	0.926
8270S ANTHRACENE	1180000	0.135	0.230	1.608	6.924	0.437	0.160	1.608	6.924
8270S ARAMITE				2.579	7.819			2.579	7.819
8270S BENZO(A)ANTHRACENE	32	0.545	0.890	2.508	10.221	0.647	1.200	2.508	10.221
8270S BENZO(A)PYRENE	4.8	0.605	0.960	2.100	8.180	0.637	1.200	2.100	8.180
8270S BENZOB(F)FLUORANTHENE	39	0.880	1.400	3.248	13.005	1.007	2.200	3.248	13.005
8270S BENZOG(H)PERYLENE	15700	0.370	0.580	1.250	4.558	0.710	0.980	1.250	4.558
8270S BENZOK(FLUORANTHENE)	92	0.345	0.570	3.424	14.783	1.230	2.800	3.424	14.783
8270S BIS(2-ETHYLHEXYL)PHTHALATE	65.6	0.465	0.800	0.995	3.891			0.995	3.891
8270S BUTYLBENZYLPHthalate	787000	0.340	0.460	0.316	0.798			0.316	0.798
8270S CHRYSENE	1100	0.930	1.500	2.691	10.787	0.860	1.800	2.691	10.787
8270S DI-N-OCTYLPHthalate		0.103	0.036	0.403	1.081			0.403	1.081
8270S DIBENZ(A,H)ANTHRACENE	4.3	0.117	0.180	0.483	1.544	0.420	0.110	0.483	1.544
8270S DIBENZOFURAN		0.102	0.033	0.864	3.407			0.864	3.407
8270S FLUORANTHENE	157000	1.410	2.200	4.734	19.879	1.363	3.200	4.734	19.879
8270S FLUORENE	157000	0.135	0.100	0.856	3.320	0.408	0.075	0.856	3.320
8270S INDENO(1,2,3-CD)PYRENE	17	0.395	0.620	1.394	5.265	0.673	0.870	1.394	5.265
8270S PENTACHLORONITROBENZENE				0.327	0.797			0.327	0.797
8270S PHENANTHRENE	15700	0.740	1.200	5.617	27.078	0.753	1.500	5.617	27.078
8270S PYRENE	118000	1.320	2.100	5.117	20.698	1.223	2.800	5.117	20.698
ORGANOCHLORINE PESTICIDES/PCBs									
8080S 4,4'-DDD	3.83	0.026	0.044	0.072	0.360			0.072	0.360
8080S 4,4'-DDE	2.7	0.011	0.020	0.112	0.401	0.011	0.031	0.112	0.401
8080S 4,4'-DDT	2.7	0.064	0.085	0.650	3.087	0.020	0.057	0.650	3.087
8080S ALPHA-CHLORDANE	0.707	0.018	0.036	0.002	0.006	0.003	0.008	0.002	0.006
8080S DELTA-BHC	1180			0.002	0.005	0.002	0.005	0.002	0.005
8080S ENDOSULFAN SULFATE		0.028	0.036	0.006	0.019			0.006	0.019
8080S ENDRIN ALDEHYDE				0.003	0.010	0.002	0.003	0.003	0.010
8080S GAMMA-BHC	0.707			0.002	0.005	0.001	0.002	0.002	0.005
8080S GAMMA-CHLORDANE	0.707	0.014	0.028	0.002	0.006			0.002	0.006
8080S HEPTACHLOR EPOXIDE	0.101	0.012	0.024	0.003	0.008	0.036	0.084	0.003	0.008
8080S ISODRIN	0.054			0.003	0.008	0.010	0.029	0.003	0.008
8080S METHOXYCHLOR	1970			0.062	0.279	0.009	0.022	0.062	0.279
ORGANOPHOSPHORUS PESTICIDES									
8142S METHYL PARATHION	787			0.008	0.014	0.007	0.005	0.008	0.014
DIOXINS/FURANS									
SOWZS OCDD	0.23	0.0006	0.0008	0.00055	0.00124			0.00055	0.00124
INORGANICS									
7041S ANTIMONY				0.4	2.1			0.4	2.1
7060S ARSENIC	19	2.0	2.9	11.8	28.4	7.1	11.2	11.8	28.4
6010S BARIUM	27600	13.3	17.1	40.5	111.8	16.0	23.4	40.5	111.8
6010S BERYLLIUM	8.1			0.5	0.9	1.4	3.8	0.5	0.9
6010S CADMUM	394			0.3	0.6	0.2	0.1	0.3	0.6
6010S CALCIUM				1062	1858	927	1180	1062	1858
6010S CHROMIUM	1970	5.9	8.7	10.6	19.3	6.1	9.2	10.6	19.3
6010S COBALT	23600			3.5	5.8	3.2	4.0	3.5	5.8
6010S COPPER		7.4	10.1	14.6	29.5	6.0	9.8	14.6	29.5
9010S CYANIDE	7870			1.2	2.7			1.2	2.7
6010S IRON				13375	22307	10213	10600	13375	22307
7421S LEAD		20.4	27.9	108.7	307.5	8.9	20.5	108.7	307.5
6010S MAGNESIUM				1534	2457	1153	1340	1534	2457
6010S MANGANESE				199.5	381.0	156.0	211.0	199.5	381.0
7472S MERCURY	118	0.2	0.3	0.1	0.4	0.1	0.1	0.1	0.4
6010S NICKEL	7870	4.4	6.9	6.6	11.5	3.8	6.3	6.6	11.5
6010S POTASSIUM				484.3	732.9	692.3	826.0	484.3	732.9
6010S VANADIUM	2760	5.4	8.4	15.1	26.1	9.2	14.7	15.1	26.1
6010S ZINC	118000	34.0	44.2	59.9	140.1	27.6	41.2	59.9	140.1

All results in mg/kg (ppm).

R. RV - Rejected.

U - Undetected; number represents one half of detection limit.

J - Estimated value.

NA - Not analyzed.

Phase II results are not final data.

TABLE 3-8
CIBA-GEIGY
ANALYTICAL RESULTS
WARWICK AREA - SWMU-5
PHASE I AND PHASE II

SITE LOCATOR SAMPLE NUMBER COLLECT DATE	New Jersey Soil Cleanup Criteria	MPS	Mean Surface	Maximum Surface	95th UCL of Mean Background	95th UCL of 95th Percentile Background	Mean Subsurface	Maximum Subsurface	95th UCL of Mean Background	95th UCL of 95th Percentile Background
VOLATILE ORGANICS										
8240S 1,1-DICHLOROETHANE			0.047	0.044	0.037	0.088			0.037	0.088
8240S 2-BUTANONE		197000	0.107	0.230	0.100	0.237			0.100	0.237
8240S ACETONE	1000		0.109	0.320	0.080	0.175			0.080	0.175
8240S ACROLEIN					0.112	0.126			0.112	0.126
8240S BENZENE			0.047	0.034	0.036	0.085			0.036	0.085
8240S CHLOROBENZENE		78700	0.653	3.600	0.037	0.088	85.003	510.000	0.037	0.088
8240S CHLOROFORM			0.047	0.048	0.036	0.086			0.036	0.086
8240S ETHYLBENZENE		394000	0.046	0.027	0.037	0.088			0.037	0.088
8240S ISOBUTANOL					1.107	1.276			1.107	1.276
8240S M&P-XYLENE		1570000	0.043	0.070	0.037	0.088	1.836	11.000	0.037	0.088
8240S METHYLENE CHLORIDE	49		0.333	0.025	0.349	1.170	0.221	1.300	0.349	1.170
8240S O-XYLENE		1570000	0.042	0.046	0.037	0.088	1.119	6.700	0.037	0.088
8240S TETRACHLOROETHENE		17.7	0.179	2.400	0.037	0.088	0.353	2.100	0.037	0.088
8240S TOLUENE		787000	0.361	1.800	0.135	0.487	16.669	100.000	0.135	0.487
8240S TRANS-1,4-DICHLORO-2-BUTENE					0.073	0.176			0.073	0.176
8240S TRICHLOROETHENE	23		0.050	0.130	0.037	0.088			0.037	0.088
SEMI-VOLATILE ORGANICS										
8270S 1,1-BIPHENYL		19700	1.038	1.900	0.219	0.747			0.219	0.747
8270S 1,2-DICHLOROBENZENE		354000	1.663	0.180	0.327	0.797			0.327	0.797
8270S 1,4-DICHLOROBENZENE		38.3	1.673	0.039	0.327	0.797			0.327	0.797
8270S 2-CHLOROPHENOL					0.327	0.797	0.190	0.240	0.327	0.797
8270S 2-METHYLNAPHTHALENE		15700	1.604	0.360	0.516	1.734	0.143	0.110	0.516	1.734
8270S 2-NITROANILINE			8.657	7.000	1.673	4.077	0.928	0.920	1.673	4.077
8270S 3&4-METHYLPHENOL		19700	0.152	0.022	0.186	0.242	0.162	0.028	0.186	0.242
8270S 3,3-DIMETHYLBENZIDINE		0.0998	3.547	6.600	0.541	1.585			0.541	1.585
8270S 4-CHLOROANILINE	230		1.764	7.400	0.422	0.871	0.357	0.780	0.422	0.871
8270S 4-NITROQUINOLINE-N-OXIDE					3.498	5.081			3.498	5.081
8270S ACENAPHTHENE		236000	1.648	0.160	0.580	2.015	0.198	0.410	0.580	2.015
8270S ACENAPHTHYLENE		15700	1.673	0.110	0.347	0.926	0.169	0.068	0.347	0.926
8270S ANTHRACENE		1180000	1.544	0.320	1.608	6.924	0.160	0.250	1.608	6.924
8270S ARAMITE					2.579	7.819			2.579	7.819
8270S BENZO(A)ANTHRACENE	32	0.997	1.600	2.508	10.221	0.384	1.200	2.508	10.221	
8270S BENZO(A)PYRENE		4.8	1.287	1.700	2.100	8.180	0.367	1.200	2.100	8.180
8270S BENZO(B)FLUORANTHENE		39	1.423	2.800	3.248	13.005	0.530	1.900	3.248	13.005
8270S BENZO(G,H,I)PERYLENE		15700	1.772	1.200	1.250	4.558	0.280	0.740	1.250	4.558
8270S BENZO(K)FLUORANTHENE		92	1.537	3.600	3.424	14.783	0.250	0.940	3.424	14.783
8270S BIS(2-CHLOROETHYL)ETHER			1.662	0.430	0.327	0.797			0.327	0.797
8270S BIS(2-ETHYLHEXYL)PHTHALATE		65.6	16.523	140.000	0.995	3.891	26.976	160.000	0.995	3.891
8270S BUTYLBENZYL PHTHALATE		787000	1.679	0.780	0.316	0.798	0.170	0.074	0.316	0.798
8270S CHRYSENE		1100	1.171	2.300	2.691	10.787	0.393	1.300	2.691	10.787
8270S DI-N-BUTYL PHTHALATE		394000	1.659	0.057	0.328	0.797			0.328	0.797
8270S DI-N-OCTYL PHTHALATE	1100		3.530	23.000	0.403	1.081	14.976	89.000	0.403	1.081
8270S DIBENZ(A,H)ANTHRACENE		4.3	1.665	0.130	0.483	1.544			0.483	1.544
8270S DIBENZOFURAN				1.629	0.200	0.864	3.407	0.164	0.864	3.407
SEMI-VOLATILE ORGANICS (Cont'd)										
8270S DIPHENYLAMINE					0.327	0.797	0.173	0.140	0.327	0.797
8270S FLUORANTHENE		157000	1.404	3.700	4.734	19.879	0.461	1.100	4.734	19.879
8270S FLUORENE		157000	1.600	0.230	0.856	3.330	0.224	0.540	0.856	3.330
8270S INDENO(1,2,3-CD)PYRENE	17	1.716	0.860	1.394	5.265	0.149	0.340	1.394	5.265	
8270S N-NITROSO-DI-N-PROPYLAMINE	0.131	1.643	0.170	0.293	0.786				0.293	0.786
8270S NAPHTHALENE		15700	1.253	3.500	0.678	2.599	5.450	32.000	0.678	2.599
8270S NITROBENZENE		1970	1.821	2.900	0.327	0.797	0.187		0.327	0.797
8270S PHENANTHRENE		15700	0.686	1.400	5.617	27.078	0.594	2.300	5.617	27.078
8270S PHENOL		236000		0.190	0.327	0.797	0.983	5.000	0.327	0.797
8270S PROPANZINE			9.781	2.400	1.392	3.995			1.392	3.995
8270S PYRENE		118000	1.485	3.000	5.117	20.698	1.529	6.400	5.117	20.698
8270S TINUVIN 327		984	7.736	18.000	2.525	6.254			2.525	6.254
8270S TOFRANIL					2.127	4.435			2.127	4.435
ORGANOCHLORINE PESTICIDES/PCBS										
8080S 4,4'-DDD		3.83	0.128	0.410	0.072	0.360			0.072	0.360
8080S 4,4'-DDE		2.70	0.148	0.650	0.112	0.401	0.044	0.004	0.112	0.401
8080S 4,4'-DDT		2.70	0.234	0.510	0.650	3.087	0.046	0.010	0.650	3.087
8080S ALDRIN			0.054	0.216	1.100	0.002	0.005		0.002	0.005
8080S ALPHA-BHC			0.146	0.183	1.200	0.002	0.005		0.002	0.005
8080S ALPHA-CHLORDANE			0.707	0.107	0.077	0.002	0.006	0.030	0.025	0.006

All results in mg/kg (ppm).

Phase II data is not final.

RV, R - Rejected.

U - Undetected value.

NA - Not analyzed.

Undetected values replaced with one half detection limit.

TABLE 3-8
CIBA-GEIGY
ANALYTICAL RESULTS
WARWICK AREA - SWMU-5
PHASE I AND PHASE II

SITE LOCATOR SAMPLE NUMBER COLLECT DATE	New Jersey Soil Cleanup Criteria	MPS	Mean Surface	Maximum Surface	95th UCL of Mean Background	95th UCL of 95th Percentile Background	Mean Subsurface	Maximum Subsurface	95th UCL of Mean Background	95th UCL of 95th Percentile Background
8080S BETA-BHC		0.51			0.019	0.089			0.019	0.089
8080S DELTA-BHC		1180	0.111	0.260	0.002	0.005			0.002	0.005
8080S DIELDRIN	0.042		0.158	0.910	0.004	0.014			0.004	0.014
8080S ENDOSULFAN I					0.002	0.006			0.002	0.006
8080S ENDOSULFAN II			0.301	0.018	0.004	0.012			0.004	0.012
8080S ENDOSULFAN SULFATE			0.489	0.290	0.006	0.019			0.006	0.019
8080S ENDRIN	17		0.137	0.540	0.003	0.008			0.003	0.008
8080S ENDRIN ALDEHYDE			0.437	3.500	0.003	0.010			0.003	0.010
8080S GAMMA-BHC		0.707			0.002	0.005			0.002	0.005
8080S GAMMA-CHLORDANE		0.707	0.153	0.500	0.002	0.006	0.060	0.300	0.002	0.006
8080S HEPTACHLOR		0.204			0.002	0.005			0.002	0.005
8080S HEPTACHLOR EPOXIDE		0.101	0.202	1.200	0.003	0.008	0.023	0.005	0.003	0.008
8080S ISODRIN		0.054	0.151	0.850	0.003	0.008			0.003	0.008
8080S KEPONE		1.9	0.150	0.260	0.026	0.083			0.026	0.083
8080S METHOXYCHLOR		1970	207.789	2200.000	0.062	0.279	300.291	1800.000	0.062	0.279
8080S PCB-1016					0.026	0.078			0.026	0.078
8080S PCB-1221					0.053	0.156			0.053	0.156
8080S PCB-1232					0.032	0.098			0.032	0.098
8080S PCB-1242					0.026	0.078			0.026	0.078
8080S PCB-1248			12.993	160.000	0.026	0.078			0.026	0.078
8080S PCB-1254		27.6	5.645	36.000	0.037	0.112	0.457	0.140	0.037	0.112
8080S PCB-1260			4.5		0.032	0.098			0.032	0.098
8080S TOXAPHENE					0.136	0.407			0.136	0.407
ORGANOPHOSPHORUS PESTICIDES										
8142S DIMETHOATE					0.136	0.290			0.136	0.290
8142S DISULFOTON		15.7	0.062	0.008	0.059	0.111			0.059	0.111
8142S ETHYL PARATHION		2360			0.019	0.031			0.019	0.031
8142S FAMPHUR		787			0.150	0.278			0.150	0.278
8142S O,O,O-TRIETHYLPHOSPHORTHOICATE					0.161	0.301			0.161	0.301
8142S SULFOTEPP			0.023	0.004	0.013	0.022			0.013	0.022
8142S THIONAZIN			0.192	0.006	0.093	0.227			0.093	0.227
HERBICIDES										
8152S 2,4,5-T		39400	0.013	0.010	0.008	0.013			0.008	0.013
8152S 2,4,5-TP (SILVEX)		3150	0.046	0.340	0.008	0.013			0.008	0.013
8152S DINOSEB		394	0.014	0.072	0.005	0.009			0.005	0.009
DOXINS/FURANS										
SOWZS HXCDF			0.0023	0.00007	0.0011	0.00004	0.00007		0.00004	0.00007
SOWZS OCDD			0.23			0.00055	0.00124	0.004	0.0039	0.00055
SOWZS OCDF			0.0047	0.00009	0.00026	0.00004	0.00008		0.00004	0.00008
SOWZS TCDF			0.0023	0.00007	0.00077	0.00002	0.00005		0.00002	0.00005
INORGANICS										
7041S ANTIMONY		157	3.2	41.8	0.4	2.1	0.6	2.3	0.4	2.1
7060S ARSENIC		19	9.8	15.3	11.8	28.4			11.8	28.4
6010S BARIUM		27600	171.0	1270.0	40.5	111.8	58.0	149.0	40.5	111.8
6010S BERYLLIUM		8.1	0.8	2.0	0.5	0.9	0.7	1.5	0.5	0.9
6010S CADMIUM		394	2.3	6.9	0.3	0.6	1.8	7.6	0.3	0.6
6010S CALCIUM			1966	3730	1062	1858			1062	1858
6010S CHROMIUM		1970	106.0	357.0	10.6	19.3	92.3	478.0	10.6	19.3
6010S COBALT		23600	4.1	6.4	3.5	5.8			3.5	5.8
6010S COPPER	600		184.8	1960.0	14.6	29.5	70.9	356.0	14.6	29.5
6010S IRON			12698	17000	13375	22307			13375	22307
7421S LEAD	100		132.8	428.0	108.7	307.5			108.7	307.5
6010S MAGNESIUM			1485	2480	1534	2457			1534	2457
6010S MANGANESE			202.5	288.0	199.5	381.0			199.5	381.0
7472S MERCURY	118	0.4	0.9	0.1	0.4	0.3	1.3	0.1	0.4	
6010S NICKEL		7870	22.6	199.0	6.6	11.5	8.1	17.2	6.6	11.5
6010S POTASSIUM			695.6	1520.0	484.3	732.9			484.3	732.9
6010S SODIUM			118.6	215.0	187.7	312.3			187.7	312.3
SNZZS TIN		236000	12.2	37.8	25.2	79.2			25.2	79.2
6010S VANADIUM		2760	10.2	22.0	15.1	26.1			15.1	26.1
6010S ZINC		118000	3944	16100	60	140	1498	7290	60	140
9010S CYANIDE		7870	2.9	9.4	1.2	2.7	1.8	4.0	1.2	2.7
9030S SULFIDE			161.6	1700.0	98.8	342.5			98.8	342.5

Dioxin/Furan results in parenthesis are not used in the mean calculation, due to QC problems.

All results in mg/kg (ppm)

Phase II data is not final

RV, R - Rejected

U - Undetected value.

NA - Not analyzed

Undetected values replaced with one half detection limit.

TABLE 3-9
CIBA-GEIGY
ANALYTICAL RESULTS
WARWICK AREA - SWMU-6

3/2/94

SITE LOCATOR SAMPLE NUMBER COLLECT DATE	New Jersey Soil Cleanup Criteria	MPS	Mean Surface	Maximum Surface	95th UCL of Mean Background	95th UTL of 95th Percentile Background
VOLATILE ORGANICS						
8240S ACRYLON					0.112	0.126
SEMI-VOLATILE ORGANICS						
8270S 4-NITROQUINOLINE-N-OXIDE					3.498	5.081
8270S PENTACHLORONITROBENZENE					0.327	0.797
8270S SAFROLE			2.138	2.300	0.325	0.798
8270S TINUVIN 327		984	4.025	8.300	2.525	6.254
ORGANOCHLORINE PESTICIDES/PCBS						
8080S 4,4'-DDE		2.70	0.002	0.007	0.112	0.401
8080S ALPHA-BHC		0.146	0.001	0.002	0.002	0.005
8080S BETA-BHC		0.51	0.003	0.010	0.019	0.089
8080S ENDRIN			0.001	0.004	0.003	0.008
8080S ENDRIN ALDEHYDE			0.002	0.003	0.003	0.010
8080S GAMMA-CHLORDANE		0.707	0.002	0.007	0.002	0.006
8080S METHOXYCHLOR		1970	0.013	0.046	0.062	0.279
8080S PCB-1254		27.6	0.063	0.130	0.037	0.112
INORGANICS						
7041S ANTIMONY					0.38	2.05
7060S ARSENIC		19	10.58	16.20	11.78	28.44
6010S BARIUM		27600	17.53	18.60	40.51	111.81
6010S BERYLLIUM		8.1	0.41	0.62	0.48	0.91
6010S CADMIUM		394	0.81	2.30	0.31	0.55
6010S CALCIUM			729	872	1062	1858
6010S CHROMIUM		1970	8.73	9.90	10.64	19.31
6010S COBALT		23600	5.90	7.80	3.45	5.78
6010S COPPER	600		16.38	20.30	14.64	29.53
6010S IRON			15175	20000	13375	22307
7421S LEAD			20.00	43.60	108.74	307.51
6010S MAGNESIUM			2253	3080	1534	2457
6010S MANGANESE			229.75	273.00	199.51	380.97
6010S NICKEL		7870	11.43	14.70	6.58	11.51
6010S POTASSIUM			408	529	484	733
6010S SODIUM			119.75	169.00	187.71	312.29
6010S VANADIUM		2760	11.93	12.70	15.10	26.13
6010S ZINC		118000	851.93	2390.00	59.94	140.08
9010S CYANIDE		7870	0.55	0.99	1.21	2.69

All results in mg/kg (ppm).

R.V. R - Rejected.

U - Undetected; number represents one half of detection limit.

J - Estimated.

NA - Not analyzed.

No samples were collected in Phase II.

TABLE 3-10
CIBA-GEIGY
ANALYTICAL RESULTS
WARWICK AREA - SWMU-9 SOIL SAMPLES
PHASE I AND PHASE II DATA

SITE LOCATOR SAMPLE NUMBER COLLECT DATE	New Jersey Soil Cleanup Criteria	MPS	Mean Subsurface	Maximum Subsurface	95th UCL of Mean Background	95th UTL of 95th Percentile Background	Mean Surface	Maximum Surface	95th UCL of Mean Background	95th UTL of 95th Percentile Background
VOLATILE ORGANICS										
8240S ACRYLEIN					0.112	0.126			0.112	0.126
8240S CHLOROBENZENE		78700	0.004	0.007	0.037	0.088			0.037	0.088
8240S ISOBUTANOL					1.107	1.276			1.107	1.276
8240S TOLUENE			787000		0.135	0.487	0.041	0.047	0.135	0.487
SEMI-VOLATILE ORGANICS										
8270S 2-METHYLNAPHTHALENE		15700	0.015	0.018	0.516	1.734			0.516	1.734
8270S 4-NITROQUINOLINE-N-OXIDE					3.498	5.081			3.498	5.081
8270S ACENAPHTHYLENE		15700	0.131	0.160	0.347	0.926			0.347	0.926
8270S ANTHRACENE		1180000	0.208	0.240	1.608	6.924			1.608	6.924
8270S ARAMITE					2.579	7.819			2.579	7.819
8270S BENZO(A)ANTHRACENE		32	0.401	1.000	2.508	10.221			2.508	10.221
8270S BENZO(A)PYRENE		4.8	0.409	1.100	2.100	8.180			2.100	8.180
8270S BENZO(B)FLUORANTHENE		39	0.647	1.600	3.248	13.005			3.248	13.005
8270S BENZO(G,H)PERYLENE		15700	0.297	0.620	1.250	4.558			1.250	4.558
8270S BENZO(K)FLUORANTHENE		92	0.202	0.480	3.424	14.783			3.424	14.783
8270S BIS(2-ETHYLHEXYL)PHTHALATE		65.6			0.995	3.891	0.387	0.380	0.995	3.891
8270S BUTYLBENZYLPHTHALATE		787000			0.316	0.798	0.518	0.510	0.316	0.798
8270S CHRYSENE		1100	0.467	1.100	2.691	10.787	0.505	0.430	2.691	10.787
8270S DIBENZ(A,H)ANTHRACENE		4.3	0.055	0.074	0.483	1.544			0.483	1.544
8270S DIBENZOFURAN			0.087	0.036	0.864	3.407			0.864	3.407
8270S FLUORANTHENE		157000	0.687	1.600	4.734	19.879	0.555	0.730	4.734	19.879
8270S FLUORENE		157000	0.146	0.052	0.856	3.330			0.856	3.330
8270S INDENO(1,2,3-CD)PYRENE		17	0.353	0.760	1.394	5.265			1.394	5.265
8270S NAPHTHALENE		15700	0.101	0.071	0.678	2.599			0.678	2.599
8270S PENTACHLORONITROBENZENE					0.327	0.797			0.327	0.797
8270S PHENANTHRENE		15700	0.487	0.910	5.617	27.078	0.490	0.340	5.617	27.078
8270S PYRENE		118000	1.060	2.800	5.117	20.698	0.550	0.700	5.117	20.698
8270S SAFROLE					0.325	0.798	5.717	28.000	0.325	0.798
8270S TINUVIN 327		984	0.312	0.550	2.525	6.254	3.192	6.100	2.525	6.254
ORGANOCHLORINE PESTICIDES/PCBS										
8080S 4,4'-DDD		3.83	0.007	0.017	0.072	0.360			0.072	0.360
8080S 4,4'-DDE		2.7	0.003	0.004	0.112	0.401			0.112	0.401
8080S 4,4'-DDT		2.7	0.006	0.008	0.650	3.087	0.002	0.004	0.650	3.087
8080S ALPHA-BHC		0.146			0.002	0.005	0.001	0.001	0.002	0.005
8080S ALPHA-CHLORDANE		0.707	0.001	0.002	0.002	0.006			0.002	0.006
8080S DIELDRIN			0.003	0.006	0.004	0.014	0.001	0.003	0.004	0.014
8080S ENDOSULFAN SULFATE			0.004	0.007	0.006	0.019			0.006	0.019
8080S ENDRIN		17			0.003	0.008	0.001	0.003	0.003	0.008
8080S ENDRIN ALDEHYDE			0.003	0.004	0.003	0.010	0.003	0.012	0.003	0.010
8080S GAMMA-BHC		0.707			0.002	0.005	0.001	0.002	0.002	0.005
8080S GAMMA-CHLORDANE		0.707	0.001	0.002	0.002	0.006			0.002	0.006
8080S HEPTACHLOR		0.204			0.002	0.005	0.001	0.003	0.002	0.005
8080S HEPTACHLOR EPOXIDE		0.101			0.003	0.008	0.001	0.002	0.003	0.008
8080S ISODRIN		0.054			0.003	0.008			0.003	0.008
8080S METHOXYCHLOR		1970	0.426	1.100	0.062	0.279			0.062	0.279
8080S PCB-1254		27.6			0.037	0.112	0.051	0.180	0.037	0.112
ORGANOPHOSPHORUS PESTICIDES										
814ZS DISULFOTON		15.7			0.059	0.111	0.046	0.006	0.059	0.111
814ZS ETHYL PARATHION		2360			0.019	0.031	0.029	0.006	0.019	0.031
DIOXINS/FURANS										
SOWZ TCDF					0.00002	0.00005			0.00002	0.00005
INORGANICS										
7041S ANTIMONY					0.38	2.05			0.38	2.05
7060S ARSENIC		19	1.63	2.50	11.78	28.44	7.18	10.20	11.78	28.44
6010S BARIUM		27600	13.35	17.70	40.51	111.81	29.45	85.50	40.51	111.81
6010S BERYLLIUM		8.1	0.38	0.66	0.48	0.91	0.50	0.78	0.48	0.91
6010S CALCIUM					1062	1858	1105	2170	1062	1858
6010S CHROMIUM			1970	6.10	6.20	10.64	19.31	8.68	20.70	10.64
6010S COBALT		23600			3.45	5.78	4.38	7.60	3.45	5.78
6010S COPPER		600		12.03	24.90	14.64	29.53	11.68	31.90	14.64
6010S IRON					13375	22307	10790	15600	13375	22307
7421S LEAD		100		18.77	42.20	108.74	307.51	30.99	124.00	108.74
6010S MAGNESIUM						1534	2457	2058	5360	1534
6010S MANGANESE						199.51	380.97	238.73	416.00	199.51

All results in mg/kg (ppm).

R, RV - Rejected.

U - Undetected; number represents one half of detection limit.

J - Estimated value.

NA - Not analyzed.

Phase II results are not final data.

TABLE 3-10
CIBA-GEIGY
ANALYTICAL RESULTS
WARWICK AREA - SWMU-9 SOIL SAMPLES
PHASE I AND PHASE II DATA

SITE LOCATOR SAMPLE NUMBER COLLECT DATE	New Jersey Soil Cleanup Criteria	MPS	Mean Subsurface	Maximum Subsurface	95th UCL of Mean Background	95th UTL of 95th Percentile Background	Mean Surface	Maximum Surface	95th UCL of Mean Background	95th UTL of 95th Percentile Background
6010S NICKEL		7870	3.45	5.90	6.58	11.51	7.45	13.90	6.58	11.51
6010S POTASSIUM					484	733	1221	4630	484	733
6010S SODIUM					187.71	312.29	109.38	217.00	187.71	312.29
6010S VANADIUM		2760	6.73	7.40	15.10	26.13	10.88	19.60	15.10	26.13
6010S ZINC		118000	49.07	82.70	59.94	140.08	42.88	70.80	59.94	140.08

Dioxin/Furan results in parenthesis are not used in the mean calculation, due to QC problems.

All results in mg/kg (ppm).

R, RV - Rejected.

U - Undetected; number represents one half of detection limit.

J - Estimated value.

NA - Not analyzed.

Phase II results are not final data.

TABLE 3-11
CIBA-GEIGY
ANALYTICAL RESULTS FOR SOIL SAMPLES
WARWICK AREA - SWMU-16

SITE LOCATOR SAMPLE NUMBER COLLECT DATE	MPS	Mean Surface	Maximum Surface	95th UCL of Mean Background	95th UTL of 95th Percentile Background	Mean Subsurface	Maximum Subsurface	95th UCL of Mean Background	95th UTL of 95th Percentile Background
VOLATILE ORGANICS									
B240S ACRYLIC ACID				0.112	0.126			0.112	0.126
B240S CHLOROBENZENE	78700	0.037	0.006	0.037	0.088			0.037	0.088
B240S ISOBUTANOL				1.107	1.276			1.107	1.276
B240S M&P-XYLENE	1570000	0.039	0.011	0.037	0.068	0.010	0.011	0.037	0.068
B240S METHYLENE CHLORIDE		0.094	0.011	0.349	1.170	0.027	0.012	0.349	1.170
B240S TETRACHLOROETHENE	17.7	0.038	0.009	0.037	0.068	0.011	0.012	0.037	0.068
B240S TOLUENE	787000	0.040	0.014	0.135	0.487	0.008	0.028	0.135	0.487
SEMI-VOLATILE ORGANICS									
B270S 4-NITROQUINOLINE-N-OXIDE				3.498	5.081			3.498	5.081
B270S BUTAZOLIDIN	1180			2.132	4.465			2.132	4.465
B270S PENTACHLORONITROBENZENE				0.327	0.797			0.327	0.797
ORGANOCHLORINE PESTICIDES/PCBS									
B080S 4,4'-DDT	2.7	0.002	0.004	0.650	3.087	0.004	0.024	0.650	3.087
B080S ALPHA-BHC	0.146			0.002	0.005	0.001	0.002	0.002	0.005
B080S BETA-BHC	0.51	0.004	0.009	0.019	0.089	0.001	0.019	0.089	
B080S CHLOROBENZILATE				0.030	0.073	0.014	0.046	0.030	0.073
B080S DELTA-BHC	1180	0.001	0.002	0.002	0.005	0.001	0.002	0.002	0.005
B080S METHOXYCHLOR	1970			0.062	0.279	0.011	0.033	0.062	0.279
B080S PCB-1254	27.6	0.060	0.150	0.037	0.112	0.019	0.029	0.037	0.112
INORGANICS									
6060S ARSENIC	19	5.25	6.80	11.78	28.44	2.58	7.30	11.78	28.44
6010S BARIUM	27600	12.70	13.40	40.51	111.81	9.69	11.20	40.51	111.81
6010S BERYLLIUM	8.1	0.51	0.59	0.48	0.91	0.68	0.86	0.48	0.91
6010S CALCIUM		771	786	1062	1858	579	579	1062	1858
6010S CHROMIUM	1970	4.90	5.80	10.64	19.31	3.75	5.90	10.64	19.31
6010S COBALT	23600	3.20	3.50	3.45	5.78	3.65	7.70	3.45	5.78
6010S COPPER		5.60	6.40	14.64	29.53	5.28	6.10	14.64	29.53
6010S IRON		8835	9430	13375	22307	9400	9400	13375	22307
7421S LEAD		5.15	5.60	108.74	307.51	5.45	8.10	108.74	307.51
6010S MAGNESIUM		1091	1300	1534	2457	1140	1140	1534	2457
6010S MANGANESE		272.00	290.00	199.51	380.97	403.00	403.00	199.51	380.97
6010S NICKEL	7870	3.60	4.50	6.58	11.51	2.90	6.10	6.58	11.51
6010S POTASSIUM		594.00	612.00	484.27	732.87	459.00	459.00	484.27	732.87
6010S SODIUM		127.00	196.00	187.71	312.29	181.00	181.00	187.71	312.29
6010S VANADIUM	2760	8.70	11.50	15.10	26.13	4.85	8.50	15.10	26.13
6010S ZINC	118000	36.30	44.30	59.94	140.08	45.03	66.90	59.94	140.08
9010S CYANIDE	7870			1.21	2.69	1.68	3.00	1.21	2.69

All results in mg/kg (ppm).

R, RV - Rejected.

U - Undetected; number represents one half of detection limit.

J - Estimated value.

NA - Not analyzed.

Phase II results are not final data.

TABLE 3-12
CIBA-GEIGY
ANALYTICAL RESULTS
WASTEWATER TREATMENT AREA - SWMU-10
PHASE I AND PHASE II DATA

3/2/94

SITE LOCATOR SAMPLE NUMBER COLLECT DATE	MPS	Mean Surface	Maximum Surface	95th UCL of Mean Background	95th UTL of 95th Percentile Background	Mean Subsurface	Maximum Subsurface	95th UCL of Mean Background	95th UTL of 95th Percentile Background
VOLATILE ORGANICS									
8240S ACETONE		0.02	0.04	0.08	0.17			0.08	0.17
8240S ACRYLEIN				0.11	0.13			0.11	0.13
8240S ISOBUTANOL				1.11	1.28			1.11	1.28
8240S METHYLENE CHLORIDE		0.01	0.01	0.35	1.17			0.35	1.17
8240S TOLUENE	787000			0.13	0.49	0.05	0.04	0.13	0.49
SEMI-VOLATILE ORGANICS									
8270S 2,4-DINITROPHENOL				1.90	4.30			1.90	4.30
8270S 4-NITROQUINOLINE-N-OXIDE				3.50	5.08			3.50	5.08
8270S ARAMITE				2.58	7.82			2.58	7.82
8270S BENZO(A)PYRENE	4.8	0.10	0.06	2.10	8.18			2.10	8.18
8270S BENZO(B)FLUORANTHENE	39	0.11	0.09	3.25	13.01			3.25	13.01
8270S BIS(2-ETHYLHEXYL)PHTHALATE	65.6	1.90	7.20	0.99	3.89	0.79	0.54	0.99	3.89
8270S BUTAZOLIDIN	1180			2.13	4.47			2.13	4.47
8270S DI-N-BUTYLPHthalate	394000			0.33	0.80	0.79	0.41	0.33	0.80
8270S DINOSEB	394			0.27	0.43			0.27	0.43
8270S FLUORANTHENE	157000	0.13	0.15	4.73	19.88			4.73	19.88
8270S PENTACHLORONITROBENZENE				0.33	0.80			0.33	0.80
8270S PHENANTHRENE	15700	0.14	0.06	5.62	27.08			5.62	27.08
8270S PHENOL	236000			0.33	0.80	0.74	0.12	0.33	0.80
8270S PYRENE	118000	0.11	0.13	5.12	20.70			5.12	20.70
ORGANOCHLORINE PESTICIDES/PCBs									
8080S ALDRIN	0.054			0.00	0.01	0.00	0.00	0.00	0.01
8080S DIELDRIN				0.00	0.01	0.00	0.00	0.00	0.01
8080S GAMMA-BHC	0.707			0.00	0.00	0.00	0.00	0.00	0.00
8080S KEPONE	1.9			0.03	0.08	0.00	0.01	0.03	0.08
8080S PCB-1254	27.6			0.04	0.11	0.02	0.06	0.04	0.11
ORGANOPHOSPHORUS PESTICIDES									
8142S ETHYL PARATHION	2360			0.02	0.03	0.04	0.00	0.02	0.03
8142S FAMPUR	787			0.15	0.28	0.14	0.01	0.15	0.28
8142S METHYL PARATHION	787			0.01	0.01	0.01	0.01	0.01	0.01
8142S THIONAZIN				0.09	0.23	0.27	0.01	0.09	0.23
DIOXINS/FURANS									
SOWZS TCDF	2.3			0.00002	0.00005			0.00002	0.00005
INORGANICS									
7041S ANTIMONY				0.38	2.05			0.38	2.05
7060S ARSENIC	19	1.19	2.20	11.78	28.44	4.13	5.30	11.78	28.44
6010S BARIUM	27600	12.39	21.60	40.51	111.81	18.07	32.00	40.51	111.81
6010S BERYLLIUM	8.1	0.49	0.77	0.48	0.91	0.71	0.81	0.48	0.91
6010S CALCIUM				1062	1858	1192	2460	1062	1858
6010S CHROMIUM	1970	5.32	7.90	10.64	19.31	6.53	8.40	10.64	19.31
6010S COBALT	23600	3.02	5.00	3.45	5.78	4.10	4.50	3.45	5.78
6010S COPPER		8.38	13.10	14.64	29.53	7.45	10.10	14.64	29.53
6010S IRON				13375	22307	12033	13300	13375	22307
7421S LEAD		28.06	96.60	108.74	307.51	8.47	14.50	108.74	307.51
6010S MAGNESIUM				1534	2457	1470	1990	1534	2457
6010S MANGANESE				199.51	380.97	167.33	185.00	199.51	380.97
6010S NICKEL	7870	3.15	5.60	6.58	11.51	3.44	5.40	6.58	11.51
6010S POTASSIUM				484	733	970	1170	484	733
6010S SODIUM				187.71	312.29	117.17	215.00	187.71	312.29
6010S VANADIUM	2760	7.18	10.20	15.10	26.13	7.82	10.30	15.10	26.13
6010S ZINC	118000	24.12	34.80	59.94	140.08	50.77	66.90	59.94	140.08
9010S CYANIDE	7870	2.50	4.00	1.21	2.69	0.54	0.96	1.21	2.69

All results in mg/kg (ppm).

R, RV - Rejected.

J - Estimated.

NA - Not analyzed.

Phase II results are not final data.

TABLE 3-13
CIBA-GEIGY
ANALYTICAL RESULTS FOR SOIL SAMPLES
WASTEWATER TREATMENT AREA - SWMU-12
PHASE I AND PHASE II DATA

3/2/94

SITE LOCATOR SAMPLE NUMBER COLLECT DATE	New Jersey Soil Clean Up Criteria	MPS	Mean Subsurface	Maximum Subsurface	95th UCL of Mean Background	95th UTL of 95th Percentile Background	Mean Surface	Maximum Surface	95th UCL of Mean Background	95th UTL of 95th Percentile Background
VOLATILE ORGANICS										
B240S ACETONE		1000	0.12	0.21	0.08	0.17	0.11	0.20	0.08	0.17
B240S ACRYLIC ACID					0.11	0.13			0.11	0.13
B240S CHLOROBENZENE		78700	0.02	0.12	0.04	0.09	1.35	13.00	0.04	0.09
B240S ETHYLBENZENE		394000			0.04	0.09	0.24	2.10	0.04	0.09
B240S ISOBUTANOL					1.11	1.28			1.11	1.28
B240S M&P-XYLENE		1570000	0.04	0.24	0.04	0.09	0.84	8.20	0.04	0.09
B240S METHYLENE CHLORIDE			0.01	0.01	0.35	1.17	0.17	0.01	0.35	1.17
B240S O-XYLENE		1570000	0.02	0.12	0.04	0.09	0.33	3.10	0.04	0.09
B240S PENTACHLOROETHANE					0.02	0.03			0.02	0.03
B240S STYRENE		787000	0.00	0.01	0.04	0.09	0.05	0.02	0.04	0.09
B240S TETRACHLOROETHENE			17.7		0.04	0.09	0.04	0.01	0.04	0.09
B240S TOLUENE		787000	0.02	0.09	0.13	0.49	1.01	8.70	0.13	0.49
Semi-Volatile Organics										
B270S 1,2,4-TRICHLOROBENZENE		3940			0.33	0.80	1.06	0.03	0.33	0.80
B270S 2,4-DICHLOROPHENOL		1180	0.15	0.30	0.33	0.80	0.82	2.10	0.33	0.80
B270S 2,4-DINITROPHENOL					1.90	4.30			1.90	4.30
B270S 2-METHYLNAPHTHALENE		15700			0.52	1.73	0.54	0.50	0.52	1.73
B270S 2-METHYLPHENOL		2800			0.33	0.80	0.76	1.80	0.33	0.80
B270S 2-NITROANILINE					1.67	4.08	5.18	0.07	1.67	4.08
B270S 3&4-METHYLPHENOL		19700	0.17	0.12	0.19	0.24	0.20	0.38	0.19	0.24
B270S 4-CHLOROANILINE		230	0.39	1.00	0.42	0.87	1.79	5.60	0.42	0.87
B270S 4-METHYLPHENOL		19700			0.50	1.22	1.39	0.29	0.50	1.22
B270S 4-NITROQUINOLINE-N-OXIDE					3.50	5.08			3.50	5.08
B270S ACENAPHTHENE		236000	0.16	0.05	0.58	2.01	1.03	0.60	0.58	2.01
B270S ACENAPHTHYLENE		15700	0.15	0.09	0.35	0.93	1.06	0.05	0.35	0.93
B270S ACETOPHENONE			0.16	0.03	0.33	0.80	1.04	0.03	0.33	0.80
B270S ANILINE			0.19	0.41	0.33	0.80	1.21	1.60	0.33	0.80
B270S ANTHRACENE		1180000	0.17	0.39	1.61	6.92	0.96	1.50	1.61	6.92
B270S ARAMITE					2.58	7.82			2.58	7.82
B270S BENZO(A)ANTHRACENE		32	0.24	0.72	2.51	10.22	1.19	3.90	2.51	10.22
B270S BENZO(A)PYRENE		4.8	0.24	0.63	2.10	8.18	1.21	3.60	2.10	8.18
B270S BENZO(B)FLUORANTHENE		39	0.33	0.78	3.25	13.01	1.46	3.20	3.25	13.01
B270S BENZO(G,H,I)PERYLENE		15700	0.17	0.14	1.25	4.56	1.22	2.50	1.25	4.56
B270S BENZO(K)FLUORANTHENE		92	0.15	0.36	3.42	14.78	1.29	3.80	3.42	14.78
B270S BIS(2-ETHYLHEXYL)PHTHALATE		65.6	0.19	0.37	0.99	3.89	1.08	0.35	0.99	3.89
B270S BUTAZOLIDIN		1180			2.13	4.47			2.13	4.47
B270S BUTYLBENZYLPHthalate		787000	0.16	0.05	0.32	0.80	1.04	0.15	0.32	0.80
B270S CHRYSENE		1100	0.24	0.63	2.69	10.79	1.16	4.10	2.69	10.79
B270S DCDF					0.49	1.59	2.28	7.20	0.49	1.59
B270S DI-N-BUTYLPHthalate		394000	0.16	0.12	0.33	0.80	1.06	0.10	0.33	0.80
B270S DI-N-OCTYLPHthalate		1100			0.40	1.08	1.04	0.16	0.40	1.08
B270S DIBENZ(A,H)ANTHRACENE		4.3	0.10	0.07	0.48	1.54	1.98	17.00	0.48	1.54
B270S DIBENZOFURAN			0.17	0.09	0.86	3.41	0.65	1.10	0.86	3.41
B270S DIETHYLPHthalate		3150000			0.33	0.80	0.68	1.70	0.33	0.80
B270S DINOSEB		394			0.27	0.43			0.27	0.43
B270S FLUORANTHENE		157000	0.45	1.80	4.73	19.88	1.09	6.90	4.73	19.88
B270S FLUORENE		157000	0.15	0.09	0.86	3.33	1.02	0.51	0.86	3.33
B270S INDENO(1,2,3-CD)PYRENE		17	0.16	0.35	1.39	5.27	1.18	2.10	1.39	5.27
B270S IRGASAN DP-300		1690	43.50	67.00	1.31	3.99	51.80	340.00	1.31	3.99
B270S NAPHTHALENE		15700	0.16	0.17	0.68	2.60	0.74	2.50	0.68	2.60
B270S PENTACHLORONITROBENZENE					0.33	0.80			0.33	0.80
B270S PHENANTHRENE		15700	0.49	1.80	1.62	27.08	1.11	5.10	5.62	27.08
B270S PHENOL		236000			0.33	0.80	0.65	1.80	0.33	0.80
B270S PROPAGAZINE			0.50	0.64	1.39	3.99	6.42	28.00	1.39	3.99
B270S PYRENE		118000	0.73	2.10	5.12	20.70	2.14	6.80	5.12	20.70
B270S TINUVIN 327		984	155.00	170.00	2.53	6.25	29.02	210.00	2.53	6.25
B270S TRCDF			0.60	1.20	0.49	1.59	25.79	120.00	0.49	1.59
TOXINS/FURANS										
SOWZS 2,3,7,8-TCDF		0.0023	0.00	0.0001	0.00002	0.00005	0.00120	0.00120	0.00002	0.00005
SOWZS HXCDF		0.0023			0.00004	0.00007	0.00004	0.00080	0.00004	0.00007
SOWZS PECDD			0.00047		0.00007	0.00011	0.00012	0.00012	0.00007	0.00011
SOWZS PECDF			0.00047		0.00004	0.00008	0.00007	0.00035	0.00004	0.00008
SOWZS TCDF		0.0023	0.002	0.0023	0.00002	0.00005	0.00890	0.08900	0.00002	0.00005

All results in mg/kg (ppm).

R, R.V - Rejected.

U - Undetected; number represents one half of detection limit.

J - Estimated value.

NA - Not analyzed.

Phase II results are not final data.

TABLE 3-13
CIBA-GEIGY
ANALYTICAL RESULTS FOR SOIL SAMPLES
WASTEWATER TREATMENT AREA - SWMU-12
PHASE I AND PHASE II DATA

SITE LOCATOR SAMPLE NUMBER COLLECT DATE	New Jersey Soil Clean Up Criteria	MPS	Mean Subsurface	Maximum Subsurface	95th UCL of Mean Background	95th UTL of 95th Percentile Background	Mean Surface	Maximum Surface	95th UCL of Mean Background	95th UTL of 95th Percentile Background
ORGANOCHLORINE PESTICIDES/PCBS										
8080S 4,4-DDD		3.83			0.072	0.360	0.163	0.320	0.072	0.360
8080S 4,4-DDE		2.7			0.112	0.401	0.158	0.260	0.112	0.401
8080S 4,4-DDT		2.7	0.082	0.024	0.650	3.067	0.137	0.008	0.650	3.067
8080S ALPHA-BHC		0.146			0.002	0.005	0.070	0.002	0.002	0.005
8080S ALPHA-CHLORDANE		0.707	0.042	0.013	0.002	0.006			0.002	0.006
8080S BETA-BHC		0.51			0.019	0.089	0.071	0.016	0.019	0.089
8080S DELTA-BHC		1180	0.046	0.024	0.002	0.005	0.071	0.026	0.002	0.005
8080S DIELDRIN		0.0574	0.081	0.017	0.004	0.014	0.141	0.170	0.004	0.014
8080S ENDOSULFAN I			0.042	0.013	0.002	0.006			0.002	0.006
8080S ENDRIN	17		0.081	0.019	0.003	0.008			0.003	0.008
8080S ENDRIN ALDEHYDE			0.219	1.000	0.003	0.010	0.224	0.820	0.003	0.010
8080S GAMMA-BHC		0.707	0.041	0.004	0.002	0.005			0.002	0.005
8080S GAMMA-CHLORDANE		0.707	1.130	2.100	0.002	0.006	2.728	19.000	0.002	0.006
8080S HEPTACHLOR		0.204	0.041	0.005	0.002	0.005	0.078	0.120	0.002	0.005
8080S PCB-1254		27.6			0.037	0.112	1.378	0.210	0.037	0.112
ORGANOPHOSPHORUS PESTICIDES										
8142S DIMETHOATE					0.136	0.290	0.118	0.026	0.136	0.290
8142S DISULFOTON		15.7			0.059	0.111			0.059	0.111
8142S ETHYL PARATHION		2360			0.019	0.031	0.039	0.054	0.019	0.031
8142S FAMPUR		787			0.150	0.278	0.163	0.077	0.150	0.278
8142S METHYL PARATHION		787			0.008	0.014	0.012	0.032	0.008	0.014
8142S O,O,O-TRIETHYLPHOSPHORTHOATE					0.161	0.301			0.161	0.301
8142S PHORATE					0.021	0.035	0.035	0.017	0.021	0.035
8142S SULFOTEP					0.013	0.022	0.036	0.140	0.013	0.022
8142S THIONAZIN					0.093	0.227			0.093	0.227
HERBICIDES										
8152S 2,4,5-T		39400			0.008	0.013	0.019	0.046	0.008	0.013
8152S 2,4-D		3940	0.083	0.110	0.024	0.053	0.071	0.120	0.024	0.053
INORGANICS										
7041S ANTIMONY					0.38	2.05			0.38	2.05
7060S ARSENIC		19	3.20	3.80	11.78	28.44	7.81	11.70	11.78	28.44
6010S BARIUM		27600	24.25	24.60	40.51	111.81	34.80	75.20	40.51	111.81
6010S BERYLLIUM		8.1			0.48	0.91	0.43	0.61	0.48	0.91
6010S CADMIUM		394			0.31	0.55	0.28	0.74	0.31	0.55
6010S CALCIUM					1062	1858	7015	19600	1062	1858
6010S CHROMIUM		1970	7.85	8.30	10.64	19.31	12.07	20.50	10.64	19.31
6010S COBALT		23600			3.45	5.78	3.58	4.70	3.45	5.78
6010S COPPER	600		22.94	58.40	14.64	29.53	48.65	128.00	14.64	29.53
6010S IRON					13375	22307	11668	15800	13375	22307
7421S LEAD			28.55	35.50	108.74	307.51	39.96	76.90	108.74	307.51
6010S MAGNESIUM					1534	2457	1398	1960	1534	2457
6010S MANGANESE					199.51	380.97	197.58	488.00	199.51	380.97
7472S MERCURY	118	0.20	0.20	0.13	0.39	0.13	0.47	0.13	0.39	
6010S NICKEL		7870	6.00	6.70	6.58	11.51	9.17	13.20	6.58	11.51
6010S POTASSIUM					484	733	753	1100	484	733
6010S SILVER	110				0.46	0.67	1.17	4.00	0.46	0.67
6010S SODIUM					187.71	312.29	154.00	303.00	187.71	312.29
6010S VANADIUM		2760	7.30	7.40	15.10	26.13	11.39	15.00	15.10	26.13
6010S ZINC		118000	179.00	227.00	59.94	140.08	371.24	840.00	59.94	140.08
9010S CYANIDE		7870			1.21	2.69	0.83	3.00	1.21	2.69
9030S SULFIDE					98.77	342.48	24.44	93.00	98.77	342.48

All results in mg/kg (ppm).

R, R.V - Rejected.

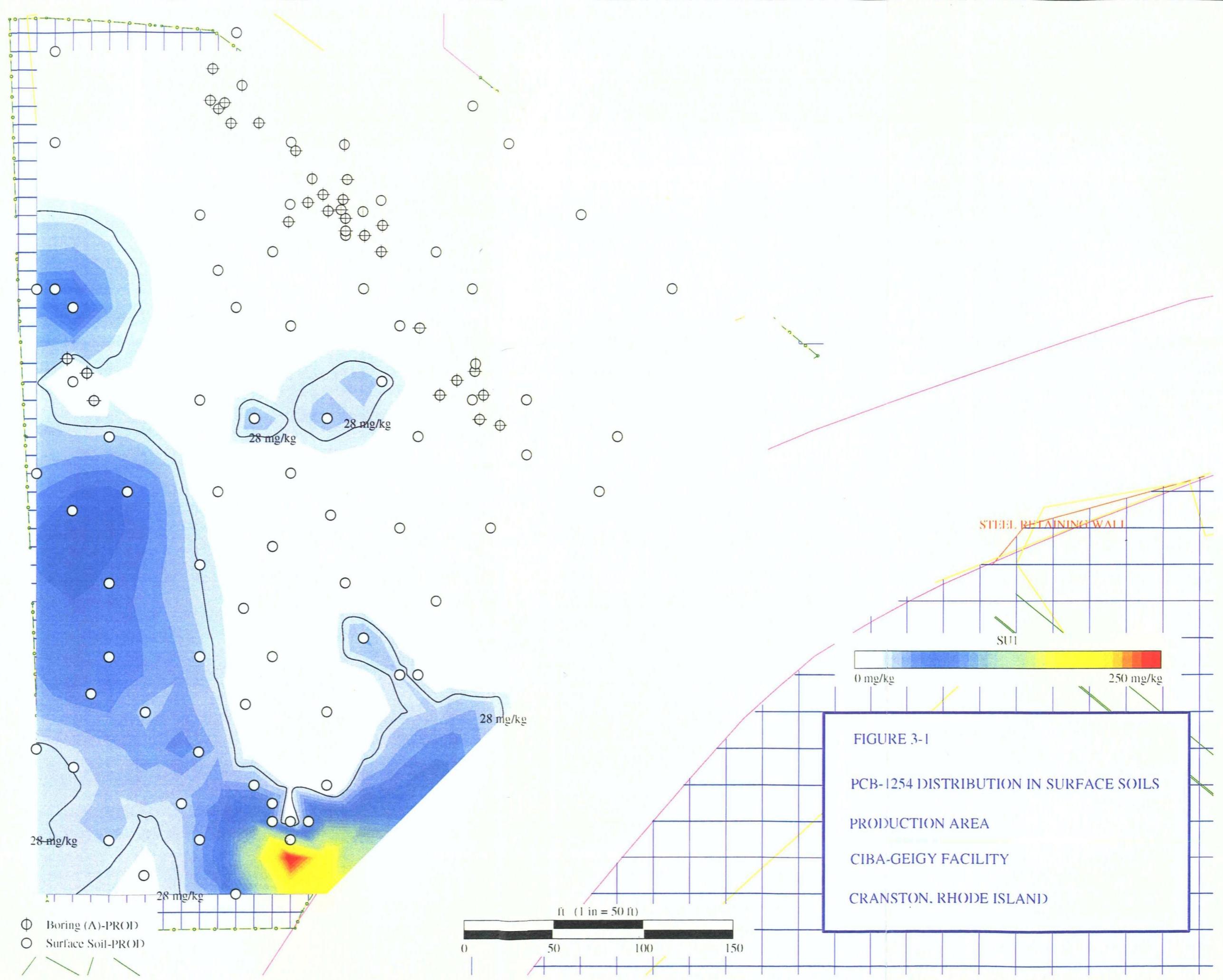
U - Undetected; number represents one half of detection limit.

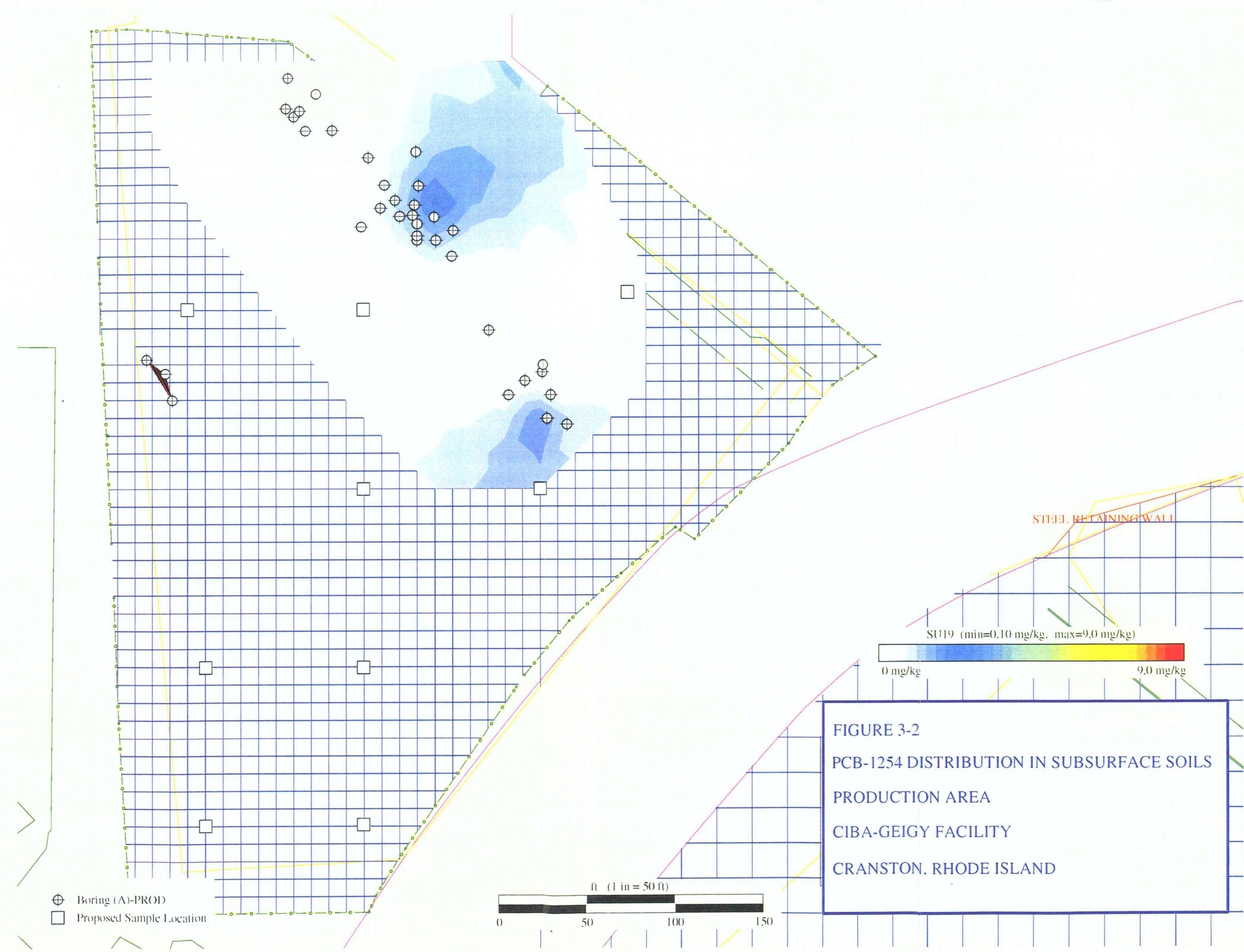
J - Estimated value.

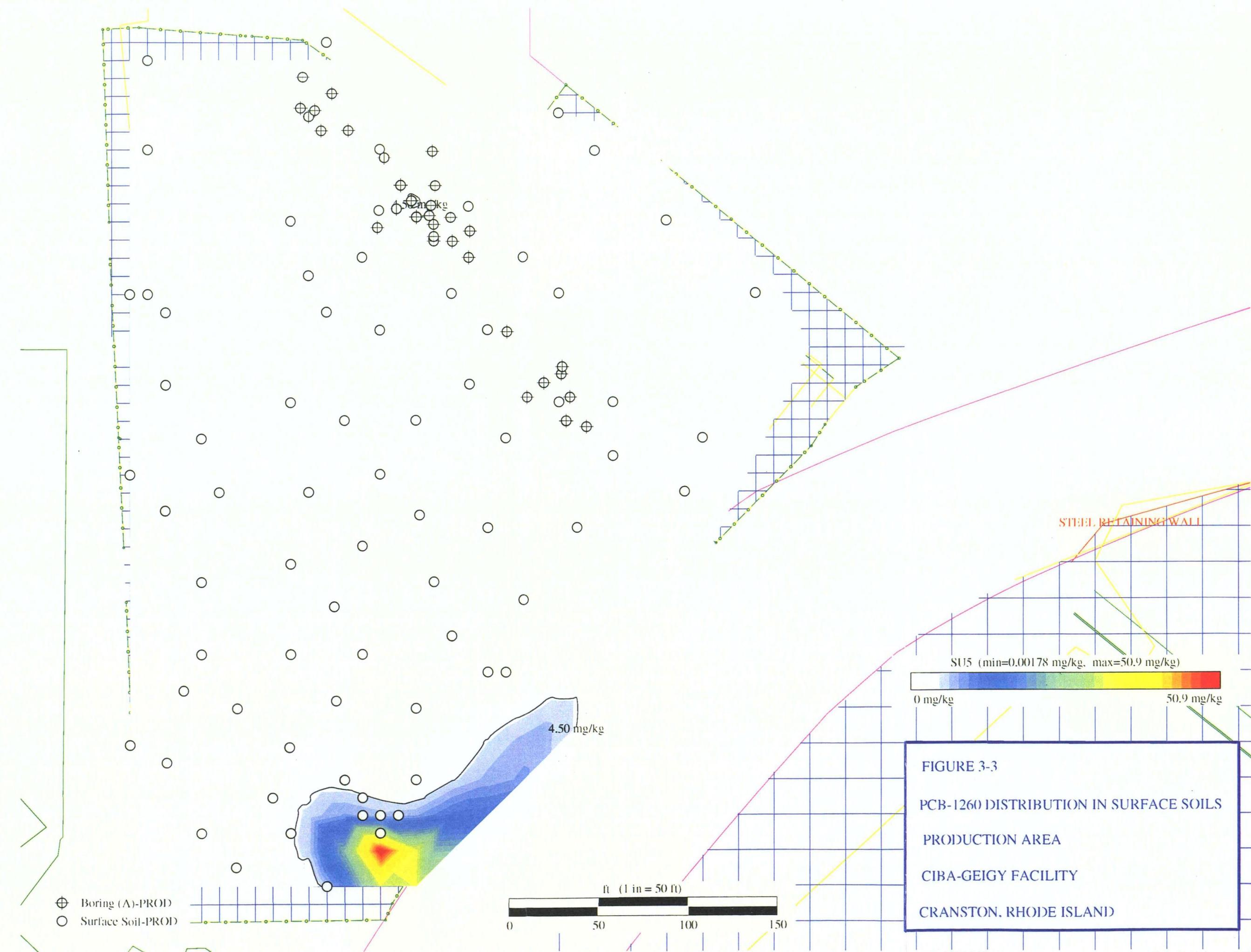
NA - Not analyzed.

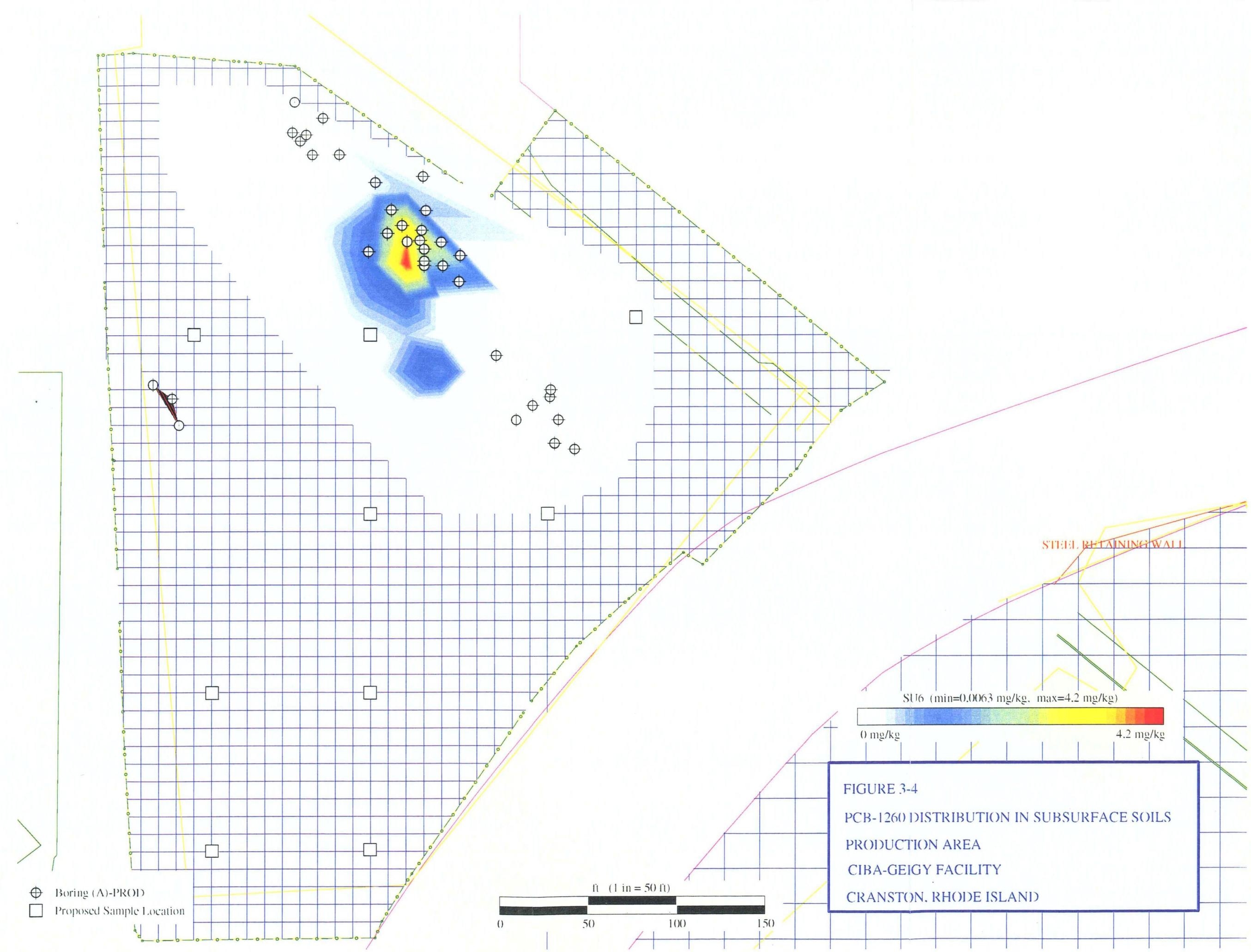
Phase II results are not final data.

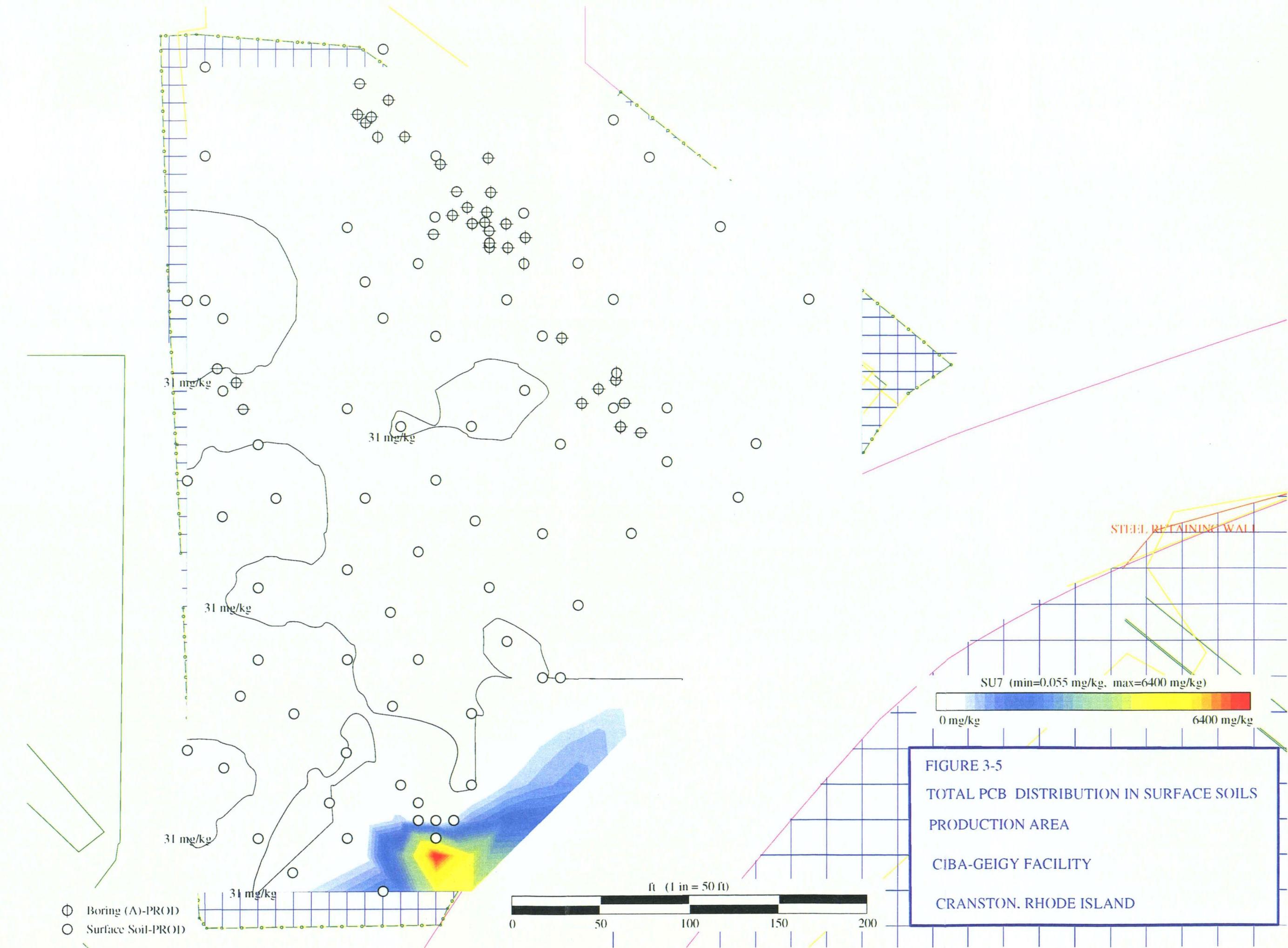
Figures

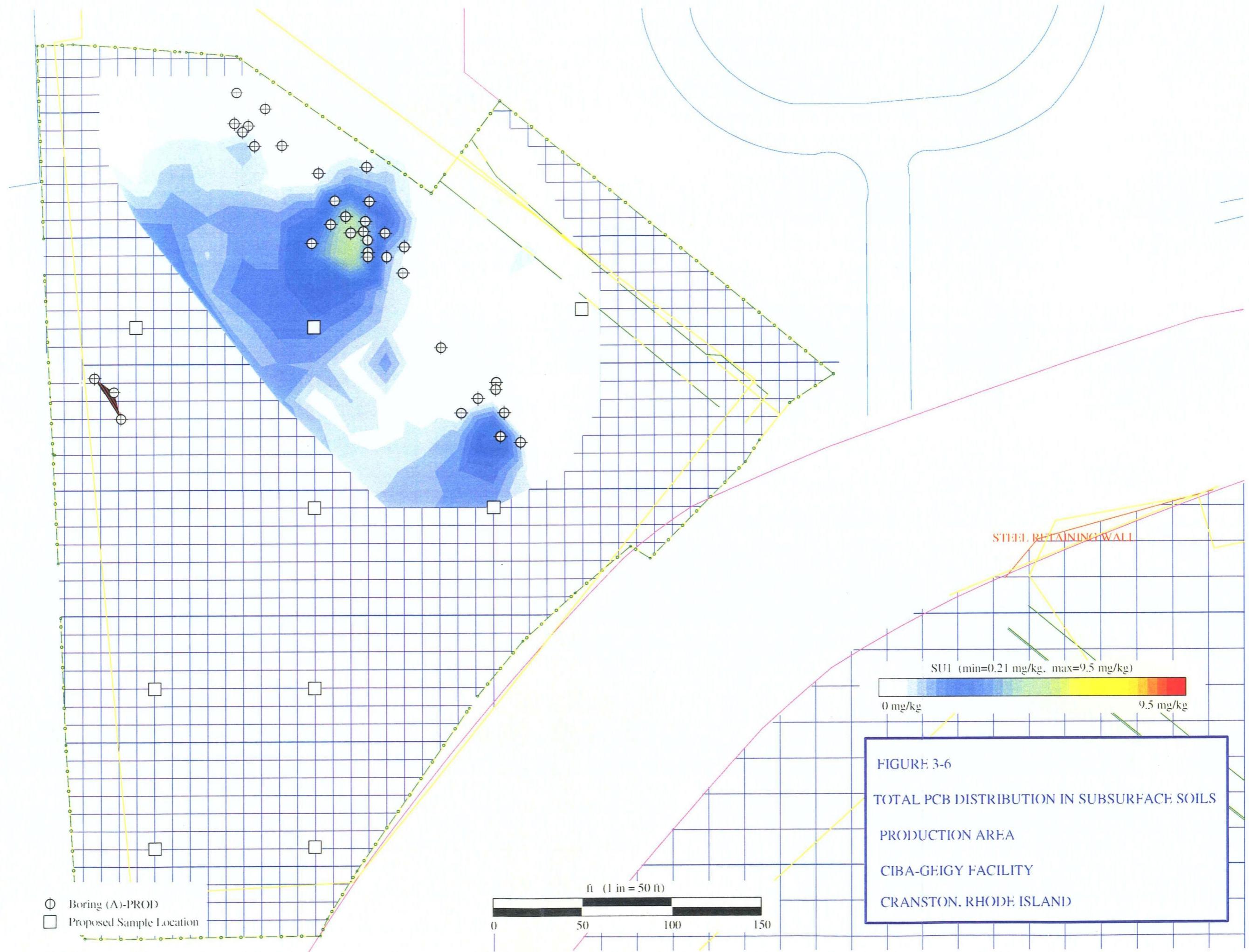


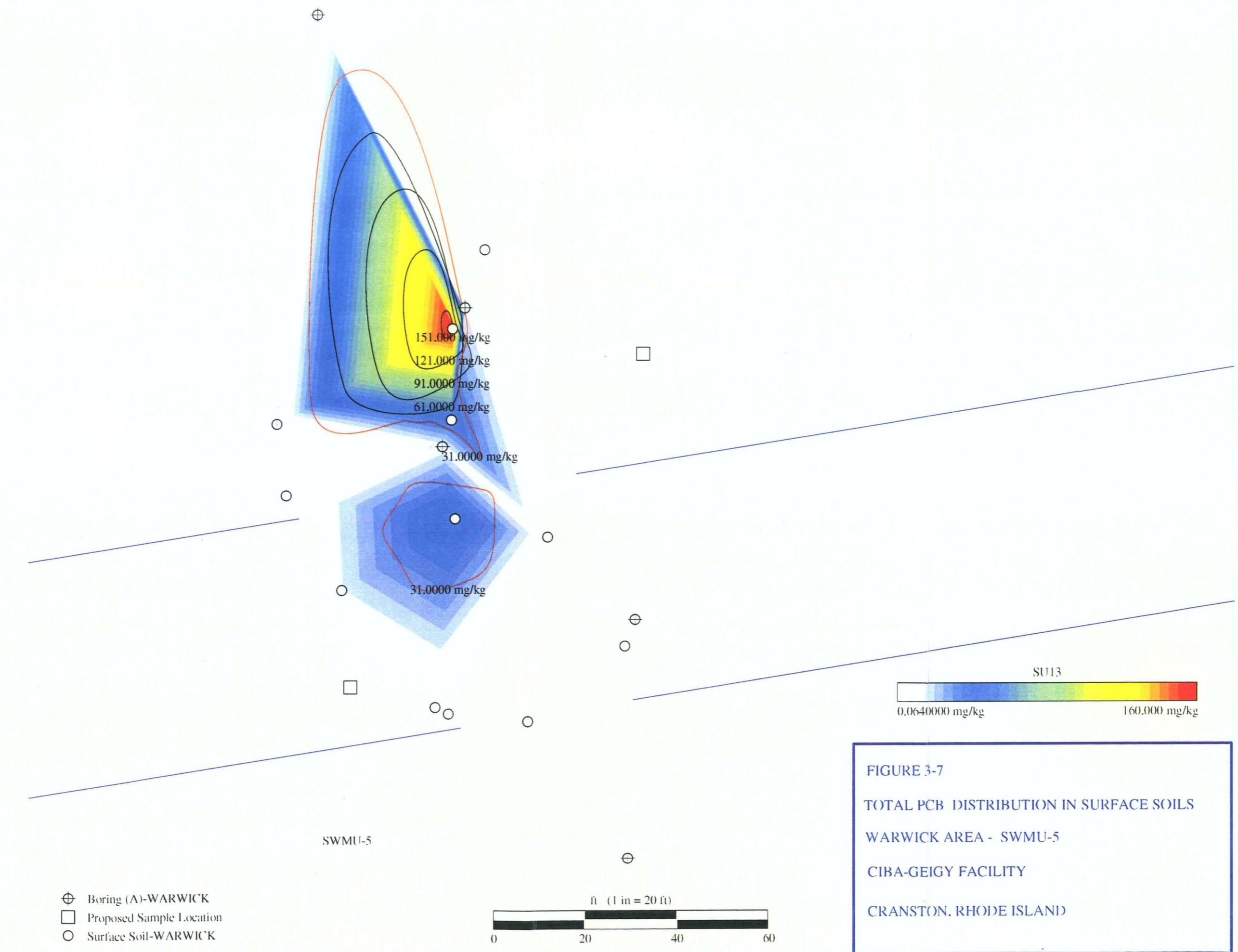


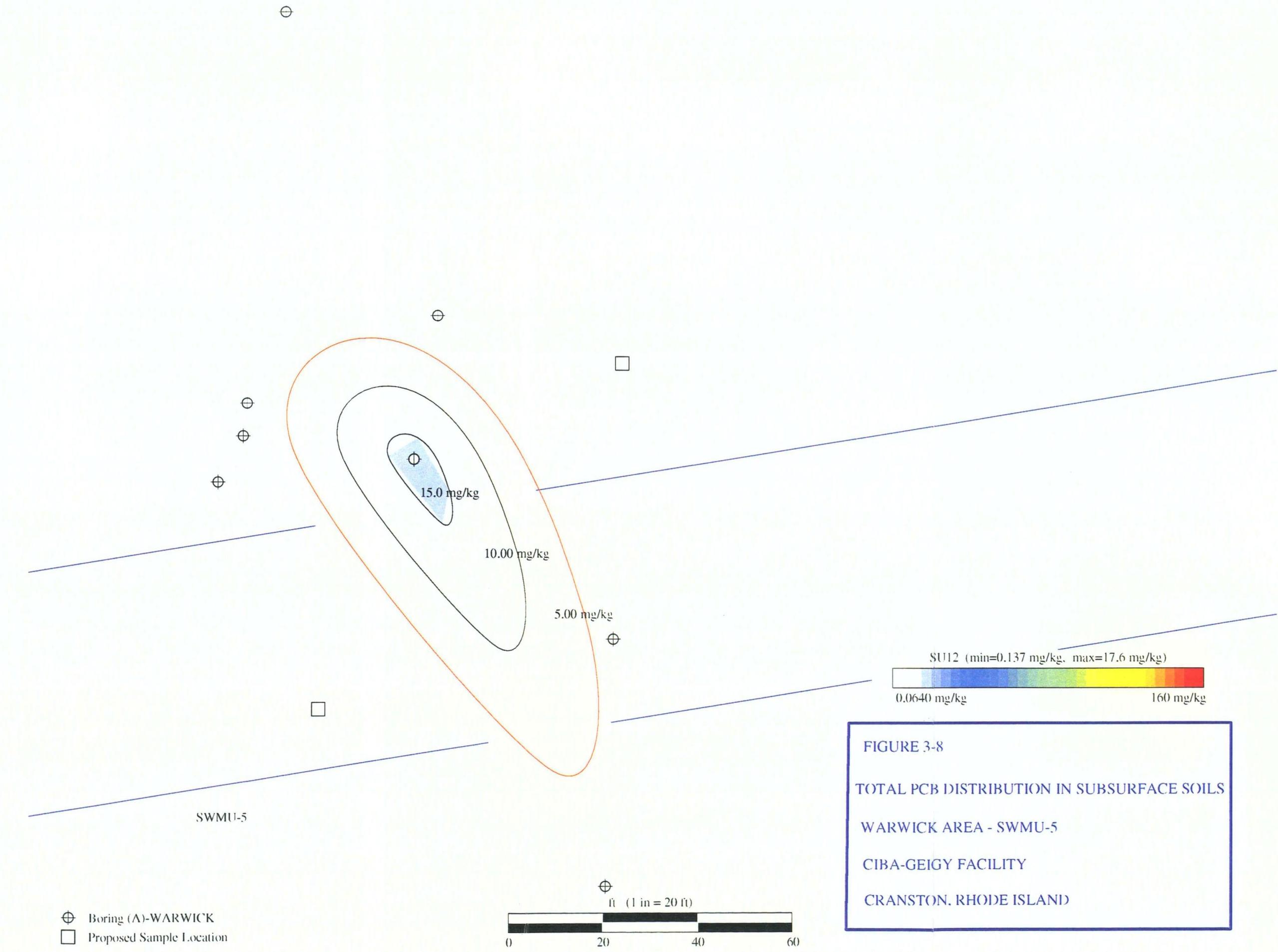


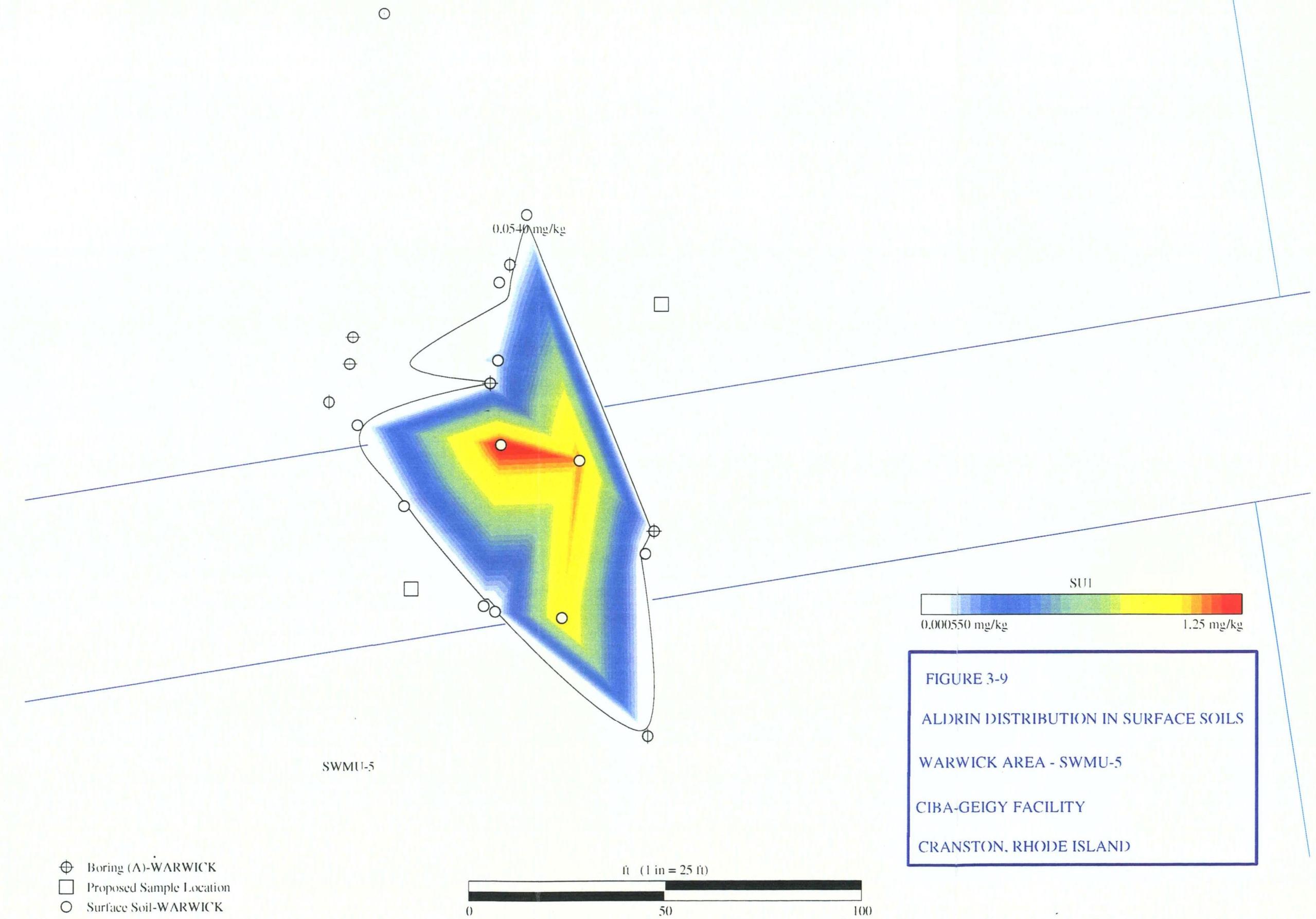


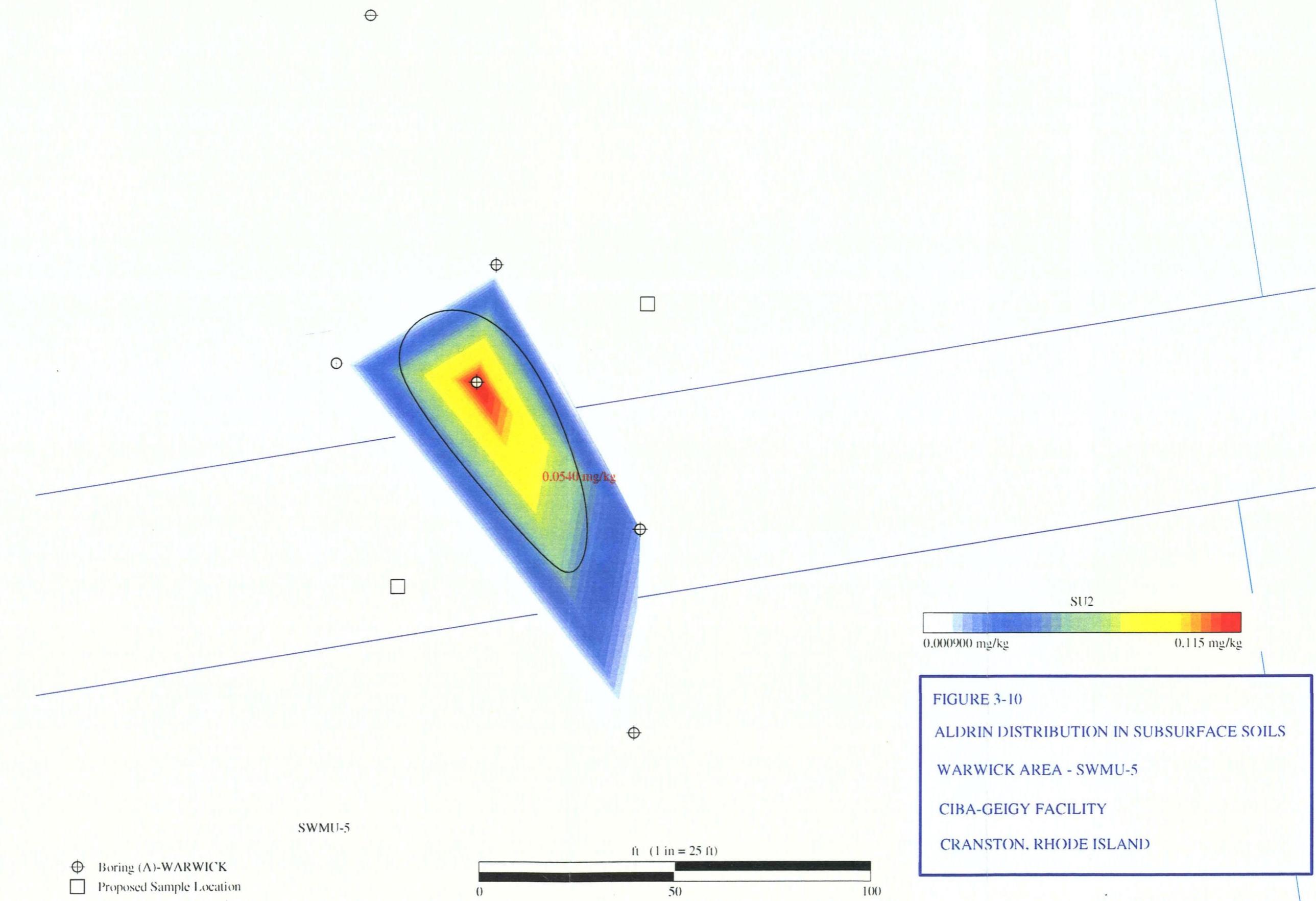


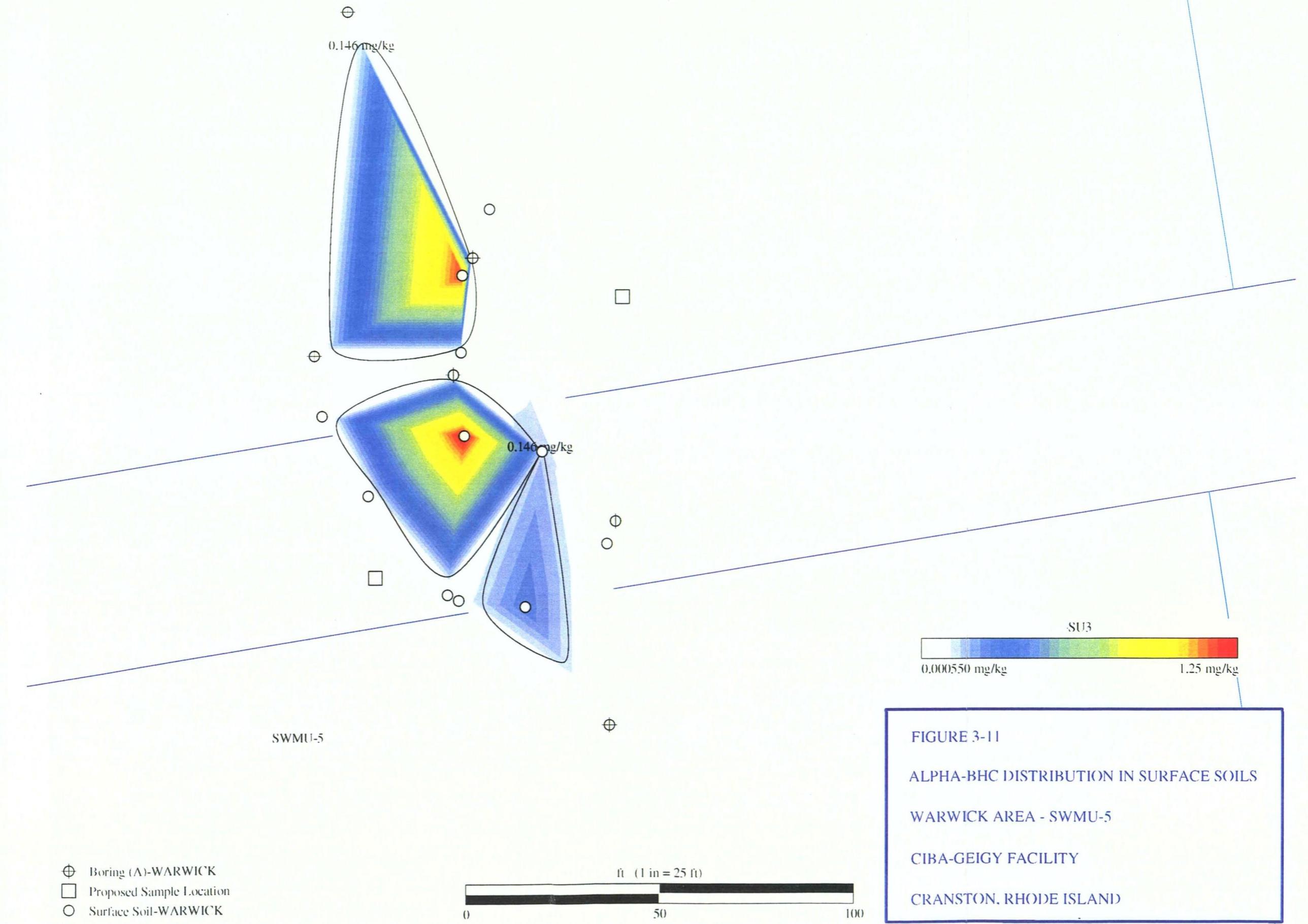


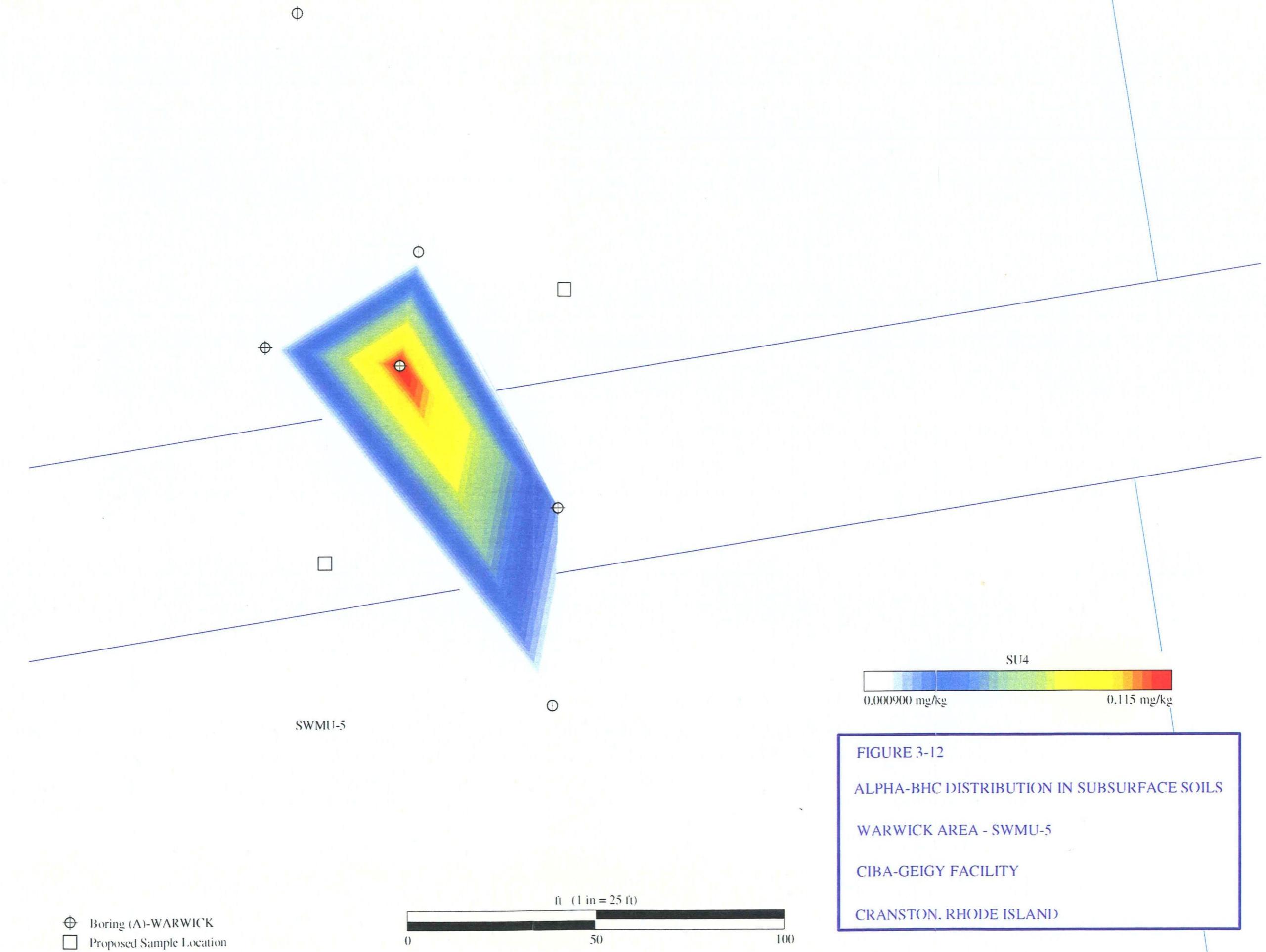


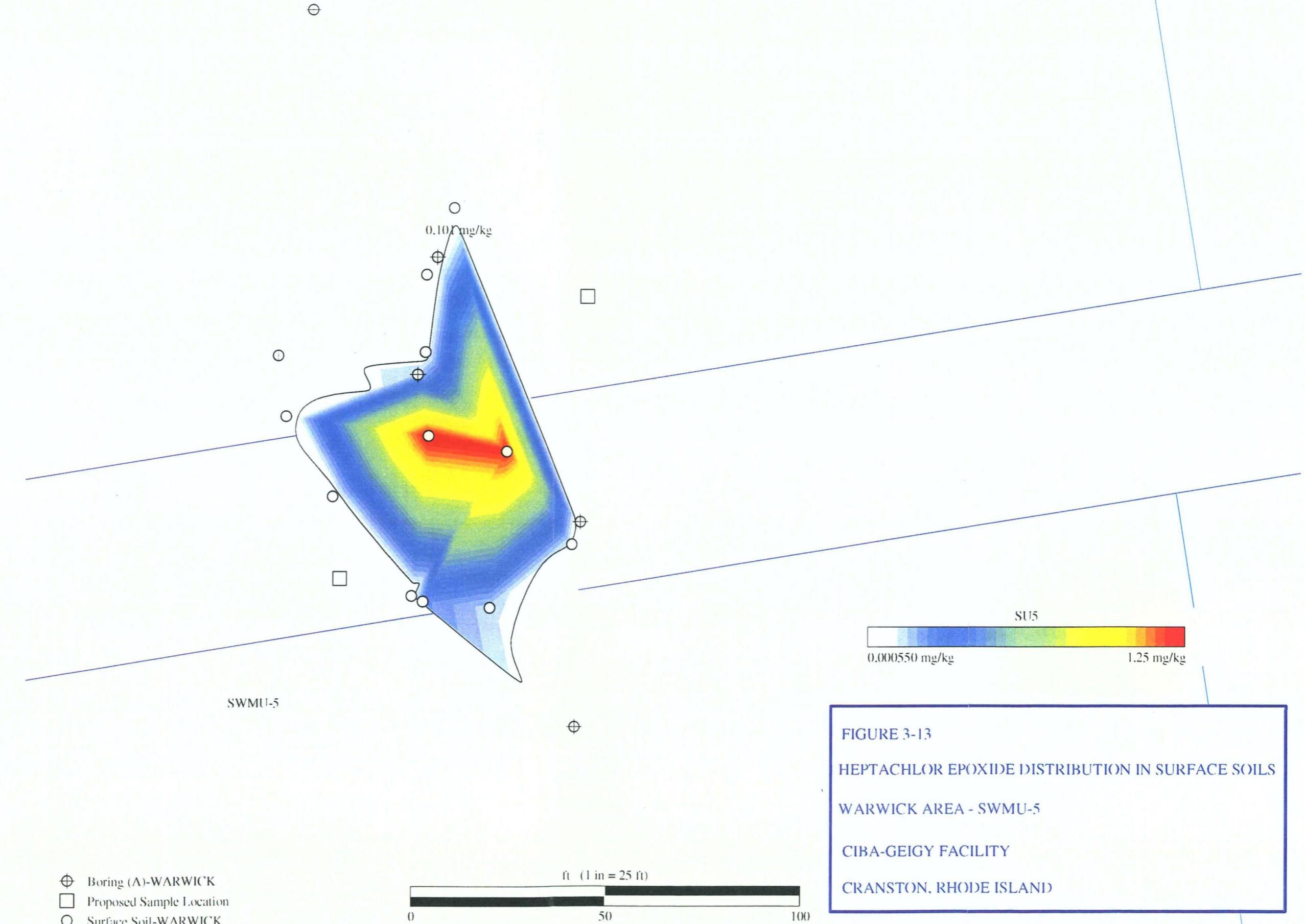


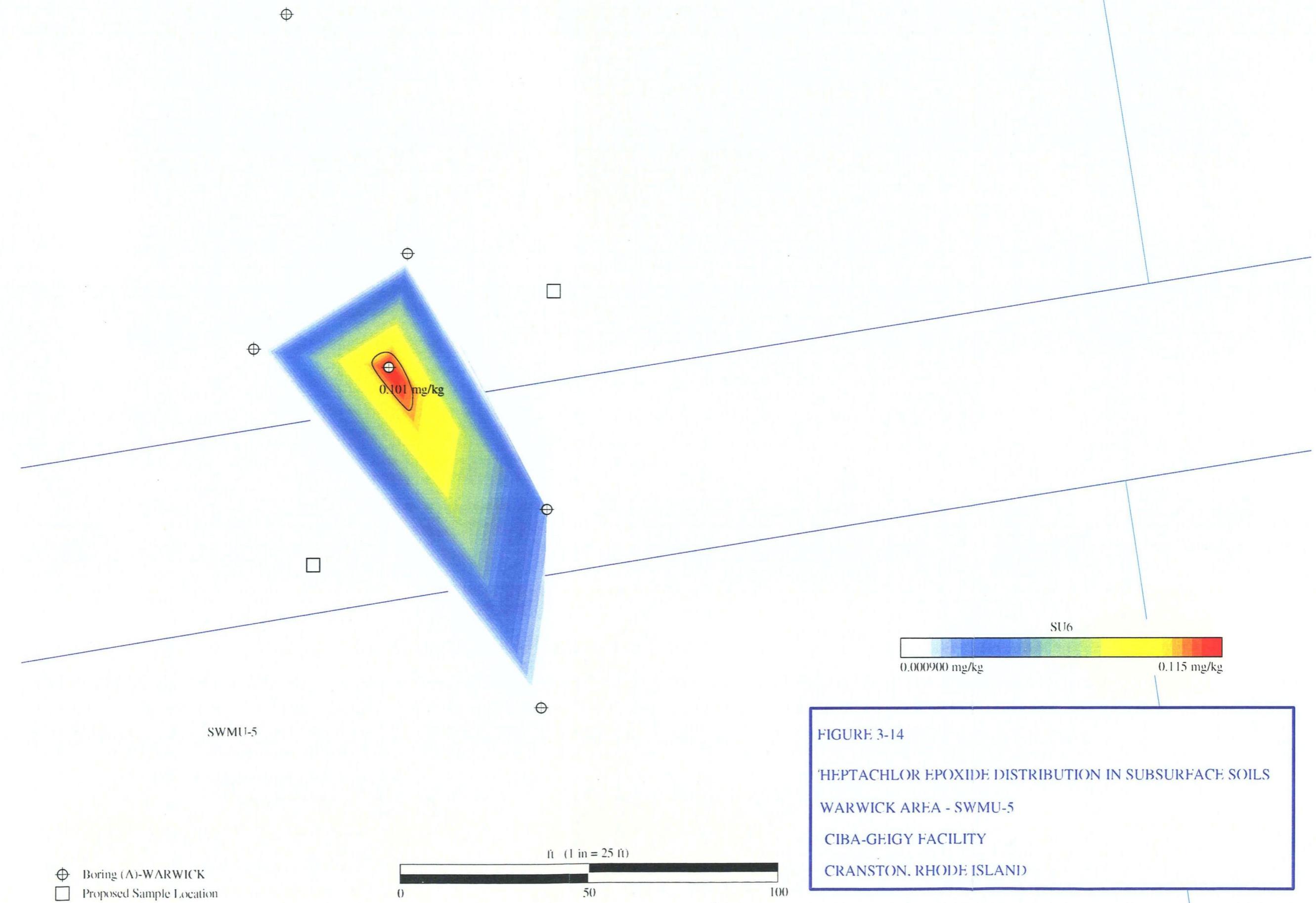


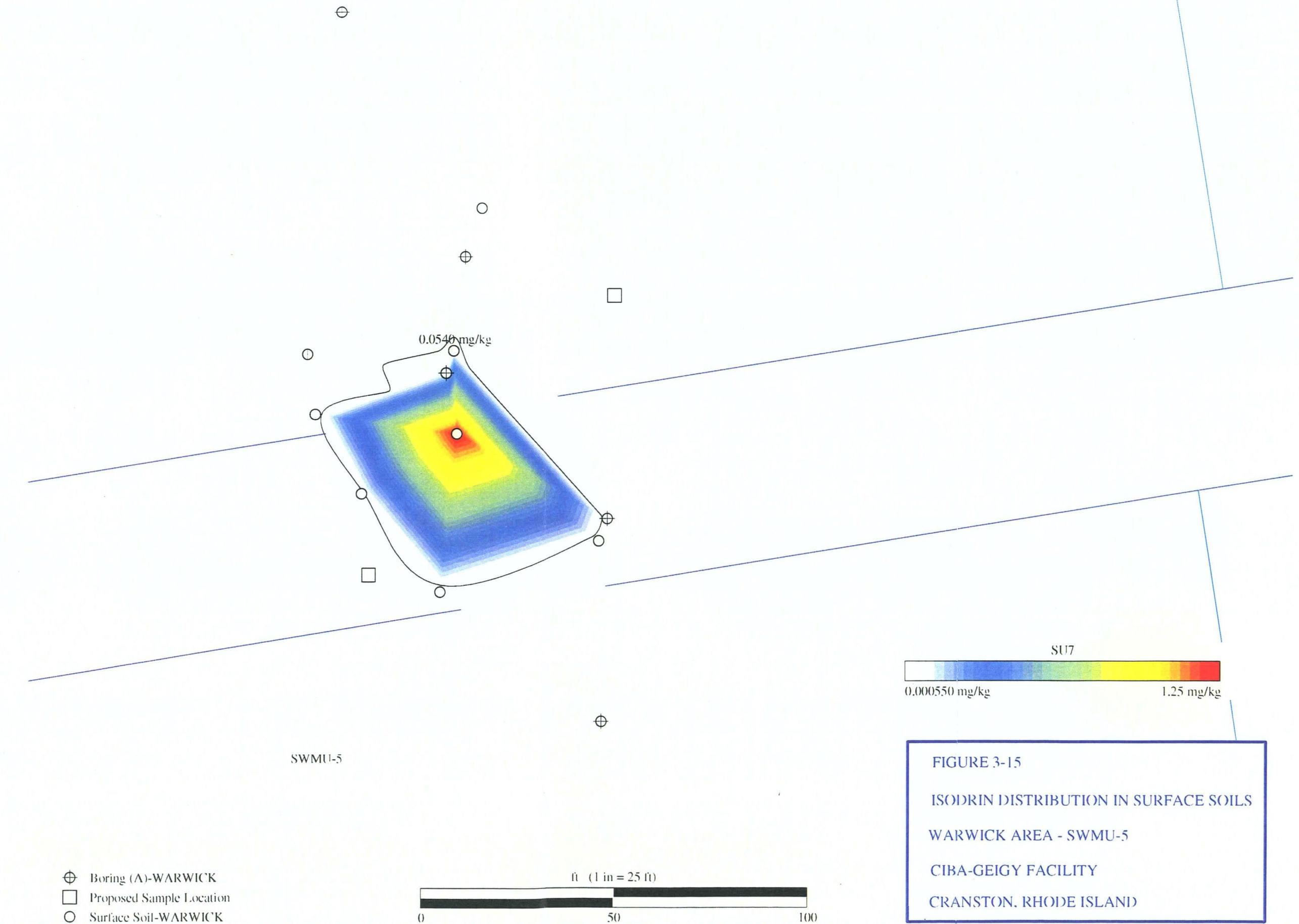


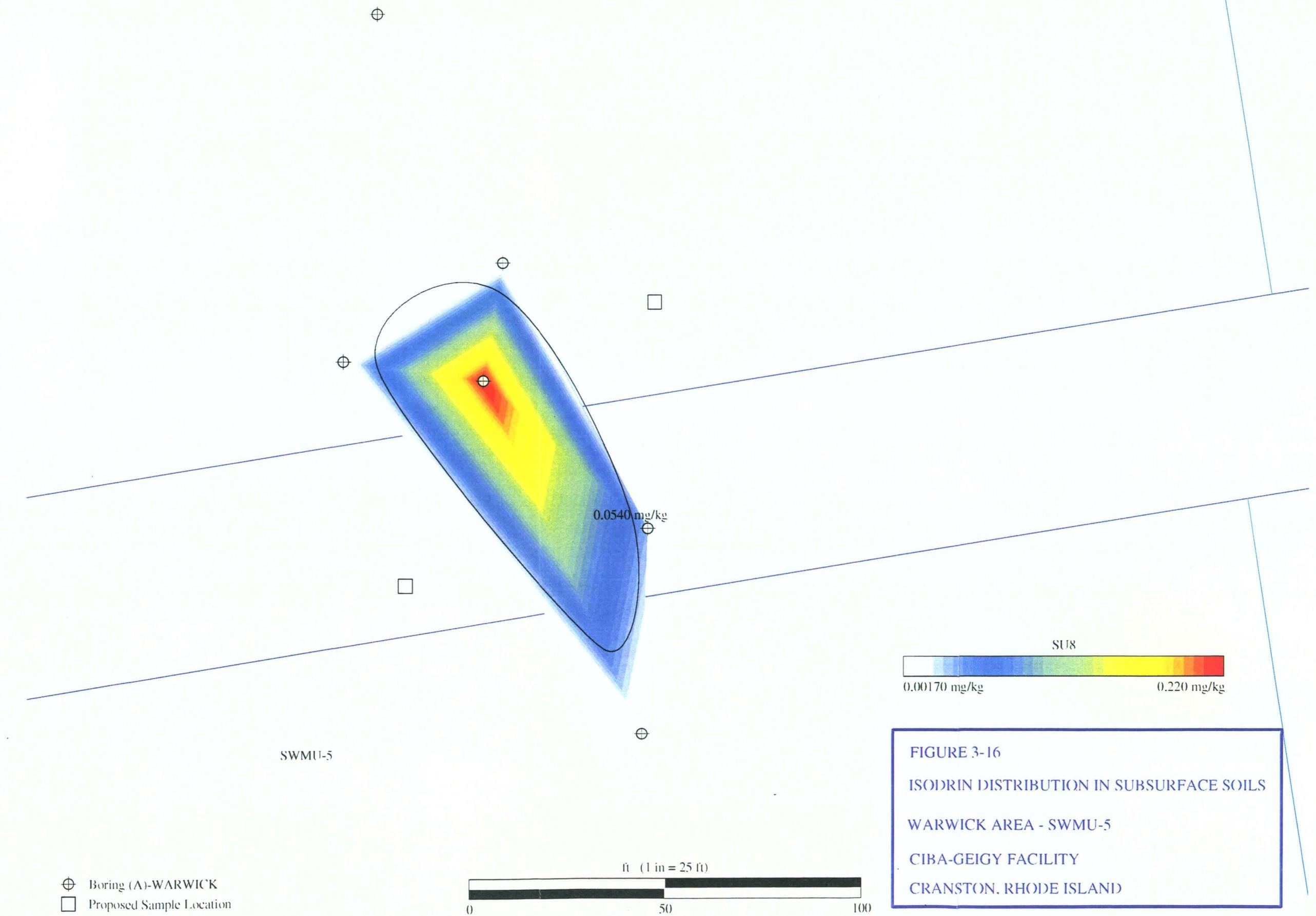


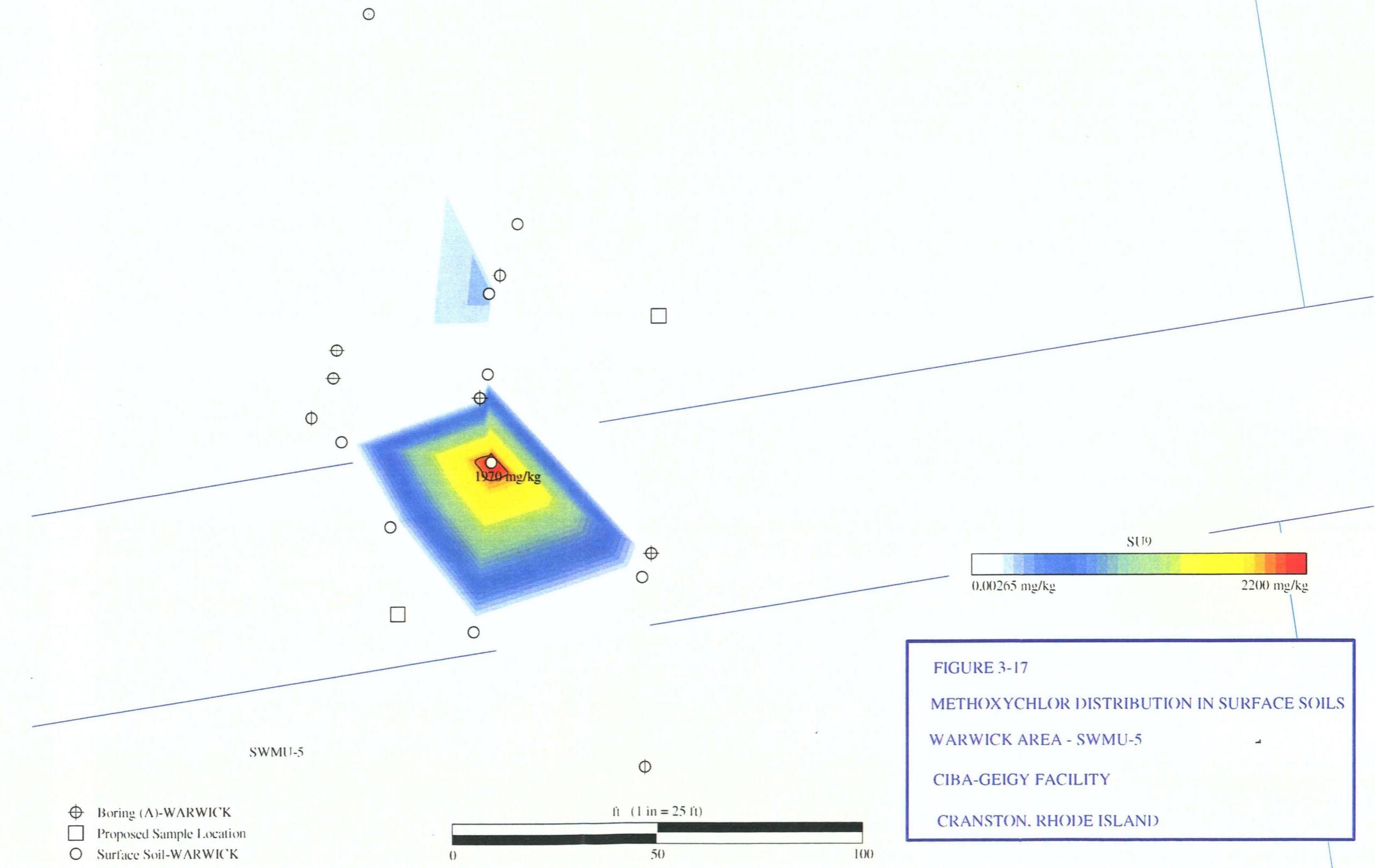












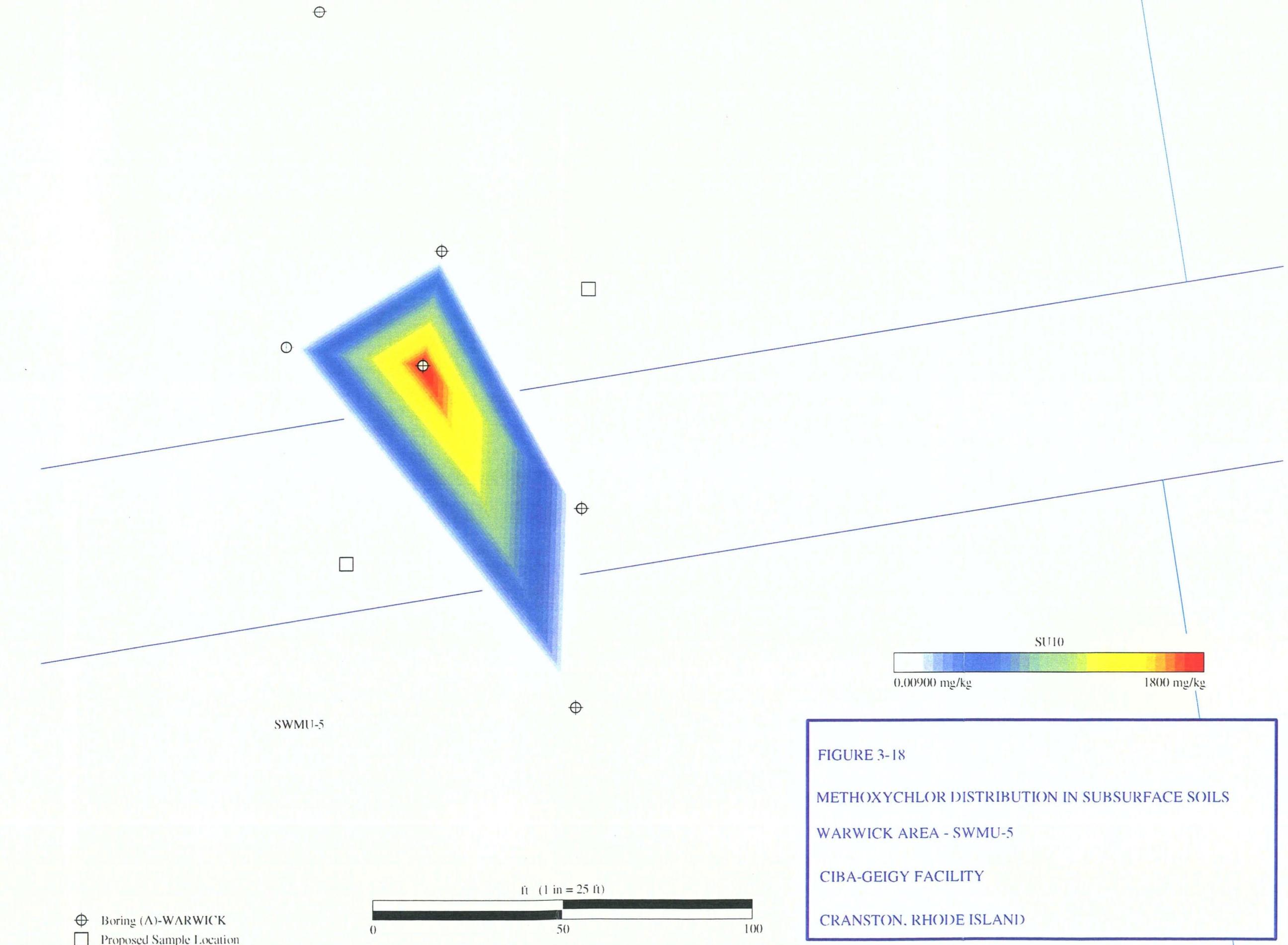


FIGURE 3-18

METHOXYCHLOR DISTRIBUTION IN SUBSURFACE SOILS

WARWICK AREA - SWMU-5

CIBA-GEIGY FACILITY

CRANSTON, RHODE ISLAND



